



George Runnels.



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CITY DOCUMENTS

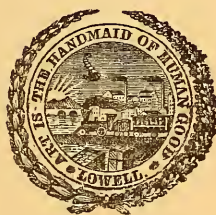
OF THE

CITY OF LOWELL,

MASSACHUSETTS,

FOR THE

YEAR 1893-1894.



LOWELL, MASS. :

CITIZEN NEWSPAPER COMPANY, PRINTERS.

1894.

EXTRACT FROM THE ORDINANCES OF LOWELL.

CHAPTER VIII...CITY DOCUMENTS.

SECTION 5. All City Documents (except the Rules and Regulations for the Government of the Police and Fire Department) shall be printed in pamphlet form of the size of the Annual Report of the School Committee.

SECTION 6. All City Documents shall be bound together in one volume, under the direction of the City Clerk, and three or more copies shall be placed in the City Library, and one copy in the library of the Middlesex Mechanics' Association, one copy shall be sent to each city of the Commonwealth, to the library of the Harvard College, the Public Library of Boston, the State Library, the Smithsonian Institute at Washington, and the Old Residents' Historical Association of Lowell.

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1. Inaugural Address of His Honor, John J. Pickman, Mayor, to the City Council, Jan. 1, 1894.
2. Municipal Register, containing Rules and Orders of the City Council, and a list of the Government and Officers of the City of Lowell, for 1894.
3. Sixty eighth Annual Report of the School Committee of Lowell, together with the Thirtieth Annual Report of the Superintendent of Schools, 1893.
4. Auditor's Fifty-eighth Annual Report of the Receipts and Expenditures of the city of Lowell, together with the Treasurer's Account, and the Account of the Commissioners of Sinking Fund, for the Financial year ending Dec. 31, 1893.
5. Twenty-first Annual Report of the Lowell Water Board, and Reports of the Superintendent of Water Works and the City Engineer, to the Water Board, for 1893.
6. Report of the Overseers of the Poor, with the accompanying papers, 1893.
7. Report of the Births, Marriages and Deaths, 1893.
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11. Report of the Chief Engineer of the Fire Department, 1893.
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13. Report of the Superintendent of Public Buildings, 1893.
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15. Report of the Trustees of the City Library, 1893.
16. Report of the City Solicitor, 1893.
17. Report of the Superintendent of City Scales, 1893.
18. Report of the Sealer of Weights and Measures, 1893.
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THE INAUGURAL ADDRESS

OF

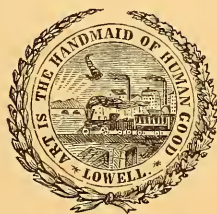
HON. JOHN J. PICKMAN,

MAYOR OF THE CITY OF LOWELL,

TO THE

TWO BRANCHES OF THE CITY GOVERNMENT,

JANUARY 1, 1894.



LOWELL, MASS.:
MORNING MAIL PRINT, 277 CENTRAL STREET.
1894.

CITY OF LOWELL.

IN COMMON COUNCIL, January 1, 1894.

Order requesting a copy of the Mayor's Address.

ORDERED, if the Board of Aldermen concur, That His Honor the Mayor be requested to furnish a copy of his Inaugural Address for publication.

IN COMMON COUNCIL, January 1, 1894.

Read and adopted; sent up for concurrence.

FRANK J. SIMONDS, *Clerk.*

IN BOARD OF ALDERMEN, January 1, 1894.

Read and adopted in concurrence.

MICHAEL J. DOWD, *City Clerk.*

ADDRESS.

GENTLEMEN OF THE CITY COUNCIL:

The best form of government by the people is that exemplified by the town meeting. The combined judgment, conscience and intelligence of many men having common interests in the consideration and determination of public measures, and dealing with them directly, is better than that of one man, or a body of men, acting in a representative capacity.

Unfortunately, the conditions incident to a large population in a community make it difficult to administer its affairs by means of town meeting methods. Agents and instrumentalities must be employed to do the work necessary to be done, and therein is the difficulty confronting the American people to-day in the government of cities. When the people themselves cease directly to govern, and transfer that power to a few of their number, it is a step removed from the source of power, and the danger to good government by reason of selfish and irresponsible action begins. Men elected to public office are sometimes unmindful that they are the servants, not the masters, and not unfrequently

yield to the temptation to make use of their position and the public funds, for the advancement of private interests, and not for the public advantage.

Legislative action is too frequently sought for in aid of enterprises begotten wholly of selfish interests and intrigue, and constant watchfulness and discrimination are necessary to distinguish between measures of public benefit, and projects calculated to help the few at the expense of the many.

What will ensure good municipal government?

First. It is certain that the nomination and election of honest and intelligent men to administer municipal affairs is essential to secure the end desired.

Secondly. A manifestation and expression of interest, watchfulness and concern by the people in the transactions of the governmental bodies of cities, is exceedingly beneficial, having the effect of a moral tonic.

Thirdly. By a concentration of power with accompanying responsibility in the heads of the various departments, and ultimately in the chief executive of the city. Responsibility without power is an injustice, and divided responsibility is ineffective in the ratio of divisibility in the case of government by agents or representatives. I am of the view expressed last year in my address to the City Council, that the current expenses of the city should be paid from the tax levy to the extent it is possible to do so; but my experience of last year has

convinced me of the necessity, as well, of supplementing this recommendation with another equally as important—that the committees of the City Council live within their appropriations, otherwise the “Pay as you go” policy may result in the increase of the appropriations, and in an increase of extravagance in the expenditure of the amounts appropriated.

The chief items of expenditure are labor and material; principally, the item of labor. In some of the departments the employment of labor is proportionate to the amount of the appropriation, and at times disproportionate to the legitimate needs of the city in this respect.

The practical thoughts I wish to emphasize in leaving this branch of my subject are few and easily understood. Employ business methods in the conduct of the city's affairs. Pay the current expenses from the tax levy to the extent the law will admit, but live within the appropriation when made, and get a fair equivalent for every dollar of money expended. Give careful consideration to every measure that comes before the City Council, guarding against parsimony on the one hand and extravagance on the other, but mindful of the needs of the future as well as the present.

I will first invite your attention to the financial condition of the city from the following statement furnished me by the Auditor.

FINANCIAL STATEMENT.

Cash in treasury January 1, 1893.....	\$ 312,438 42
Amount received into the treasury during the year	
1893.....	2,663,588 95
Making a total of.....	\$2,976,027 37
Amount paid from the treasury during the year..	2,930,451 38
Cash in the treasury December 31, 1893.....	\$ 45,575 99

CITY DEBT.

Amount of ordinary city debt January	
1, 1893.....	\$1,969,300 00
Amount borrowed during the year	
1893.....	374,900 00
Total.....	\$2,344,200 00
Amount paid during the year 1893...	166,800 00
Total ordinary city debt December	
31, 1893.....	\$2,177,400 00
Amount of the debt of the city on	
account of water works January	
1, 1893.....	\$1,279,000 00
Amount borrowed during the year	
1893.....	100,000 00
Total.....	\$1,379,000 00
Amount paid during year 1893.....	116,000 00
Total debt of the city on account of	
water works December 31, 1893...	\$1,263,000 00
Total debt of the city December 31,	
1893.....	\$3,440,400 00

Ordinary city debt December 31, 1893...	\$2,177,400 00
Amount of the several sinking funds for the payment of the same De- cember 31, 1893.....	345,066 11
Net ordinary city debt December 31, 1893.....	<u>\$1,832,333 89</u>
Debt of the city on account of water works December 31, 1893.....	\$1,263,000 00
Amount of the several sinking funds for the payment of the same De- cember 31, 1893.....	167,497 70
Net debt of the city on account of water works December 31, 1893..	<u>1,095,502 30</u>
Total net debt of the city December 31, 1893.....	<u>\$2,927,836 19</u>
Total net debt of the city December 31, 1892.....	<u>\$2,864,516 17</u>
Increase in the net debt of the city during year 1893.....	<u>\$63,320 02</u>

LOANS.

The following loans have been made during the year 1893:

For Paving.....	\$35,000 00
Pawtucket Boulevard.....	9,900 00
Sewers and Drains.....	90,000 00
Watering Streets.....	8,000 00
Amount carried forward.....	<u>\$142,900 00</u>

<i>Amount brought forward</i>	\$142,900 00
For Centralville Main Sewer.....	40,000 00
Schools.....	25,000 00
School Houses.....	8,000 00
High School Building.....	13,000 00
Addition to Butler School	25,000 00
Roads and Bridges.....	20,000 00
Paupers.....	16,000 00
Police.....	18,000 00
Fire Department.....	29,000 00
Commons.....	1,000 00
Lighting	8,000 00
Health.....	12,000 00
Removal of Railroad in Moody Street.....	17,000 00
City Debt (Water Bonds).....	100,000 00
	\$474,900 00

NEW PUBLIC BUILDINGS.

Last year was exceptional in the history of the city with respect to the number and character of the public buildings that were completed, dedicated and utilized for public purposes. The first to be finished was the Moody School building, which was dedicated with appropriate exercises on the twelfth day of April.

The Memorial Building was dedicated on the third day of June; the new City Hall was dedicated on the fourteenth day of October, and the new High School building on the twenty-first day of December.

It is a remarkable record for one year, and is illustrative of the growth, public spirit and prosperity of the city.

I have grouped the new buildings under one head, for the purpose, in part, of giving a compact statement of the expenditures incurred in the erection of these buildings.

Moody School building.....	\$ 81,734 31
Memorial Building.....	170,262 28
City Hall.....	374,290 67
High School.....	199,276 65
Total.....	\$825,563 91

CITY LIBRARY.

In the month of June the library and reading room were opened to the public at their new quarters in the Memorial building, and with increased accommodations and admirable facilities for the growth and development of the library and reading room, the growth of patronage has been so large as to necessitate the opening and furnishing of a new room to supply the growing demands for space. A large number of photographs of places of historic interest in Europe have been hung on the walls, and plaster busts and statues artistically arranged in the reading room; a step in the direction of art culture in Lowell that has been long needed.

The accession of books to the library since it was first made public in October, 1883, are as follows :

1884	1,659
1885	1,341
1886	3,036
1887	3,164
1888	1,647
1889	2,818
1890	2,050
1891	2,974
1892	5,500
1893	2,240

The circulation of books for the year 1893 was 126,215, average daily circulation 457. The expenditure on account of the library and reading room during the year was \$18,221.84.

SCHOOLS AND SCHOOL HOUSES.

The schools of Lowell were never in better condition than they are to-day. Under the wise and energetic supervision of the superintendent, modern methods of instruction have been introduced, and various agencies employed to awaken interest in educational matters in the city. The teachers, as a rule, are enthusiastic, as shown by their frequent meetings and conferences, and the results cannot be otherwise than beneficial. The success attendant upon the introduction of Kindergarten methods of

instruction into the public schools of the city is unquestioned. Kindergarten schools were established last year in Centralville, at the Training School, and at the Moody school.

A manual training school has been established within a few months at the old City Hall, and the progress of the experiment in this city will be watched with the deepest interest.

The evening schools of every grade are in excellent condition, and receive the hearty support and favoring care of the School Board.

I commend to your perusal the report of the superintendent for more exact information of the condition and needs of the schools. The amount expended in this department is very large, but it is cheerfully paid by the tax payers, if it be shown that the schools maintain their high standard of excellence. The strength and perpetuity of the republic depend largely upon the intelligence of the people, and the extent and character of the intelligence is to be measured by the efficiency of the public schools. During the year two fine school houses have been completed, and are now in use, the Moody school building and the new high school building. This year the Chelmsford street school will be finished, and the extension to the Butler School building completed.

The total expenditures for schools for the past year were \$226,015.00 and for school houses were \$184,081.30.

BOARD OF HEALTH.

The fears entertained of a visitation to the city last year, of cholera or typhoid fever were happily not well founded. Indeed, the city was unusually free from pestilence or unusual fatality from disease during the year.

I believe the Board of Health has been vigilant in guarding against the advent or spread of disease, and is equipped and provided with agencies to prevent or check epidemics in our midst. It is very certain that a large amount of money is expended by this department, and there would be no excuse for failure to meet the needs of the public in case of exigency.

The city is endeavoring to secure a source of purer water supply than is afforded by the Merrimack River, by the use of driven wells, and if successful in the attempt, it will materially reduce the present menace to public health. The disposition of swill, garbage, and other waste products by the crematory is not wholly a solved problem as yet. A considerable proportion of the waste products of the city by reason of the lack of facilities cannot be disposed of by combustion, and it is one of the vexing questions for the future, how to dispose of all the refuse of the city at the least expense, and with the least annoyance to the citizens.

I am very clear in my view that swill should not be made a subject of merchandise, with the

risk of it being fed to cattle, nor should it be deposited on dumps. It is not improbable that in the near future some means will be discovered to utilize these waste products without occasioning a nuisance or injury to public health. As it is, the crematory is doing a great deal to lessen the evils confessedly existing prior to its introduction.

Two Inspectors were appointed last year, having passed the examination required by the rules of the Civil Service. Their duties are to make a thorough and systematic examination of tenement houses in the city, and to tabulate their reports for office use.

The expenditures in this department for the past year were \$49,426.54.

MILK INSPECTOR.

The city is fortunate in having in its service as Inspector of meat and provisions, a gentleman who combines zeal with knowledge in the discharge of his duties. The duties of the office are no longer performed in a perfunctory manner, but with a scientific skill and accuracy befitting the nature of the work incident to the position.

About 1258 samples of milk have been chemically analyzed by this official the past year, and about 33 samples of water have been analyzed.

STREETS.

Last year was an unusually active one in the department of streets, due in part to extraordinary causes. There were unusually heavy falls of snow last winter, and the city did its full share toward making the roads and ways passable, which entailed the employment of an extra large number of men. Later in the year the depressed condition of business resulted in a large increase of the unemployed, and contributed to increase materially the ordinary quota of men in the employment of the city in this department. Chelmsford Street was paved last year, also Lakeview Avenue. Labor constitutes the chief item of expense in this department, and the sum expended therefor is almost wholly dependent upon the amount of the appropriation and the pleasure of the Committee on Streets. The amount expended for paving during the year was \$35,367.27.

It is a large undertaking to keep the streets and ways in repair and to do the work necessary to be done in the street department, but there is a temptation to extravagance in the expenditure of money therefor, which should be resisted, and above all a fair equivalent should be received for every dollar spent. There should be a weekly or fortnightly record and inspection of every street, way and bridge in the city, and a zealous effort made

to have all the thoroughfares in the city kept in good average condition at all seasons of the year. The city should not be burdened with the expense of accepting streets and putting them in condition for travel. Prior to acceptance they should be graded and put in proper condition by the owner of the fee.

The expenditures in this department during the year were \$132,647.80.

WATERING STREETS.

The streets of the city are now watered by the Street Department. An assessment is levied upon the estates abutting on the street, or portion of the street so watered. The city owns, and makes use of seventeen watering carts, and waters about twenty-five miles of streets; an increase of four and three-quarter miles over last year.

The sum of \$17,380.99 was expended the past year.

BRIDGES.

The City Council has authorized the rebuilding of the bridge on East Merrimack Street over Concord River, and work will probably be started upon it early next spring.

SEWERS AND DRAINS.

A very large amount of sewer construction was done last year, and a very large sum was expended therefor, as appears by the statement hereinafter made. It is money well spent, provided care can be exercised in the location of new sewers, with respect to the urgency of needs and the number of persons to be benefitted by the construction. Brick sewers were built, or are now in process of construction, in Centralville, Chelmsford Street and Foster Street. The work of construction of the Chelmsford Street sewer has been impeded, and the expense enhanced by reason of ledge formations encountered in the progress of the work. This sewer, when completed, will drain the City Farm Buildings, and remove a possible cause of pollution to the new source of water supply.

The Board of Health has called the attention of the City Council in an elaborate report and accompanying plans, to the danger to public health arising from the present condition of Hale's Brook, and recommends speedy action to abate or remove the same. I recommend that a committee of the City Council speedily consider the subject matter of the report with the view to appropriate action by the City Council.

I again call your attention to the defective condition of an old stone drain, running from the Boston & Lowell Railroad through the South Common and

across Charles and Central Streets to Tyler Street; this old drain should be discontinued, and all the sewer connections removed from it. The sewers should be flushed and kept clean, otherwise they engender disease and aid in its dissemination.

The amount expended on sewers and drains last year was \$130,273.18.

FIRE DEPARTMENT.

The Fire Department maintains its high rank in point of efficiency and equipment. The city has been fortunate during the year in escaping any large fires.

The roll of the department consists of a chief engineer, four assistant engineers, seventy-four permanent men, and one hundred and one call men.

The department has sixty horses under its control and thirteen fire houses in use. The apparatus and appliances consists of six steamers, eleven hose carriages, four trucks, two chemical engines, one protective wagon, and 22,000 feet of hose. A water tower was purchased by the Committee on Fire Department of 1892, and it was added to the fire apparatus last year; it is now housed in the High Street Engine House, but the accommodations are not sufficient for permanent retention in the place where it is now kept. The expenditure for this department was \$141,818.95.

WATER WORKS DEPARTMENT.

The work done by the Water Works Department the past year was large in amount, equal to that of 1892, which was claimed to be the heaviest in the history of the water works. The interest of the public at large with respect to the work of 1893 has been centered on the driven well work. I will endeavor briefly to inform you as to the progress thus far made in the effort to obtain a new supply of water, both as to present results and future possibilities. You will recall the fact that at the present time and following experimental work in the year 1892, the city of Lowell made a contract with the Cook Well Company of St. Louis whereby the company agreed to furnish the city of Lowell with a daily supply of ground water equal to 5,000,000 gallons, for the performance of which work and after specified tests the city contracted to pay the sum of \$25,250. During the past year the Cook Company entered upon its work; a system has been constructed in the valley of River Meadow Brook, and connected with pumps and distributing pipes provided by the water works. The pumps were started on the 16th of September, and have been at work without cessation since. The yield from the first has been in round numbers 2,000,000 gallons of water, or about one-third of the ordinary daily consumption. The yield is a disappointment to the Cook Well Company, but the manager of

the company is apparently none the less sanguine as to the final result. Additional wells have been sunk, and these will be added to the system as soon as the season will permit. If the new wells shall prove insufficient, still more will be added.

The nature of the water as pumped is watched from day to day, and it has proved to be of superior quality. The Cook Well Company has received to date \$6,062.50. The Water Board is disappointed in the measure of success, inasmuch as the close of 1893 failed to see the wells deliver what was promised—5,000,000 gallons daily, but the mixing of the new water with the old has been helpful, and still further improvement has come to the general supply as the result of extra exertion on the part of Superintendent Thomas in the matter of scouring the water way from river to pump wells, keeping the filter gallery and inlet in the best possible condition, and frequent blowing off of the mains.

I hope the water works officials will continue to make every exertion in their power, and I am sure they will be commended in any reasonable outlay of money hereafter.

During the past year, by act of City Council, recommended by the Water Board, a ten per cent. discount has been made on all bills paid the city for use of water. A still further and important reduction has been made to the users of water through meters, making the metered water rates of the city as low probably as those of any other city

in the country that pumps its water by steam power.

For the details of earnings, expenditures on account of both water works and driven wells, I refer you to the report of the Water Board which will soon be published.

The Water Works' balance commencing the new year is \$20,158.79 ; the expenditure for the year, \$211,901.86.

LIGHTING DEPARTMENT.

A new contract was made with the Lowell Electric Light Company last year, which went into effect August 1st, and is to continue in force for five years from that date. By its terms, arc lights are furnished at thirty-six cents per light per night for one year from date, and thereafter at the rate of thirty-five cents per light per night for the remainder of the term. Provision is also made for an ascertainment of the amount of light that is to be furnished, and for rebates in case of a failure to furnish the amount of lighting contracted for. It is wise to be generous in providing electric lighting, but a word of caution is necessary to check a disposition to prodigality in granting the numerous requests made for additional electric lights; it should be borne in mind that at the present rates each electric light costs the city \$131.40 a year. One hundred and nineteen electric lights have been added

this year, about one-half of which are in actual operation.

At present there are 336 electric lights in use; 821 gas lights, 502 gasoline lights.

Each electric light costs per year.....	\$131 40
Each gas light costs.....	20 33
Each gasoline.....	19 80

A Statute of the Commonwealth requires the appointment or election of an Inspector or Supervisor of Wires by the cities of the state. An effort was made to comply with the law last year, but the ordinance providing therefor failed to pass. Notwithstanding the failure to secure the services of an official inspector or supervisor of wires, an effort was made during the year to regulate and improve the condition of the wires and poles in the city.

The chief engineer of the fire department has detailed a member of the department familiar with electrical service, to ascertain the whereabouts of dead wires, and to cause them to be removed; also to inspect the poles and supports and the stringing of wires, and to report thereon, and to cause defects therein to be remedied to the extent possible so to do under the existing conditions.

As a rule the companies owning or making use of wires have co-operated with me in my efforts to improve the condition of the wires and poles of the city, but much more remains to be done, and it may require drastic methods to accomplish radical

reforms in construction and maintenance. The number of dead wires removed during the year was 140. The expenditure for the year was \$69,035.46.

POLICE.

The police department is in good condition with respect to discipline and efficiency. Freedom from political control or interference is essential in this department to secure the best results, and the chief of the department should be allowed a wide range in the recommendation and selection of his subordinates, and should be held strictly to a corresponding responsibility for the efficiency of the department under his charge. The protection of life and person, preservation of property and the observance of the laws, generally, are entrusted to this department, and honesty, zeal and intelligence should characterize the performance of the duties of its members.

The police force numbers ninety-three men, made up of a chief, two deputies, three sergeants, five inspectors, two keepers, three court officers, sixty-eight patrolmen and nine reserve men. The expenses of this department for the year were \$104,682.95.

LICENSES.

The most difficult and distressing question that confronts the municipalities of this Commonwealth, is the granting of licenses for the sale of intoxi-

cating liquors. The evil is easily recognized, the remedy is not so easily perceived. The danger is, that in the attempt to discover and apply means to check, or to prevent existing evils in the granting of licenses, other evils almost as great may be brought into being. I am not fully prepared, therefore, to recommend the appointment of a Commission to grant licenses, or to recommend to the Legislature that the limitation of the number of licenses that may be granted by towns and cities be removed. The appointment of a Commission would go far to lessen, and perhaps to remove the existing evils, were it possible to banish political considerations in the choice of appointees, and to devise a method of appointment that would ensure the continuing service of incorruptible men.

I would suggest that a committee be appointed to consider the subject carefully, and to report thereon to the City Council with its recommendations.

The Aldermen ought to be relieved, if possible, from the intrigues and importunity incident to the granting of licenses, and the time thus taken up be devoted to the more legitimate needs of the city. The obvious intent and meaning of the law relative to the granting of licenses is, that liquor should be sold only in connection with some bona fide and legitimate business incidental therewith, as for instance, that of an innholder, common victualer, grocer or apothecary. The first and fundamental question therefore for the licensing board to con-

sider and determine is clearly this: Whether the applicant for a license is engaged in such bona fide legitimate business. Great care also should be exercised in granting licenses of the sixth class (druggist's), as to the number granted, and with respect to the standing and character of the recipient. The most pernicious kind of liquor selling is that engaged in under the pretence of selling drugs and filling prescriptions. The sign of the pestle and mortar, jars of colored water, and a soda fountain are not conclusive evidence that the premises indicated thereby are legitimate depots of health supplies.

PAWTUCKET BOULEVARD, COMMONS AND PARKS.

In no department of the city are returns less satisfactory than the department of commons and parks. An entire lack of business methods and responsibility characterizes the employment of laborers, and of their supervision and discharge. There is a lack of unity and design that prevents the best results being obtained. The means of improvement should be quickly found and immediately applied.

The parks, commons, and park driveways have sufficiently increased in number and extent to warrant the appointment of a commission, to be composed of men of public spirit, possessed of good taste and integrity, to consider and determine upon a scheme

for the care and supervision of the recreation grounds of the people, with a view to securing an enlightened system of management, and an economical expenditure of the public money. The Commonwealth, by recent legislation, and many of the great cities of the state and country, have set an example in this respect which may be followed with advantage in our own city.

The appropriation for the Boulevard last year was \$9,000, less than one-half the amount of previous annual appropriations, and yet sufficient provision for the needs of this fine driveway.

The expenditure for commons and parks in 1893 including the Boulevard was \$26,483.21.

CEMETERIES.

The increased demand for burial lots in the Edson cemetery made necessary the seizure of a large tract of land consisting of 139,446 square feet adjoining the cemetery. A fence has been erected about the lot, and a tool-house and stable will probably be erected this year. Experience has shown the wisdom of giving the control and management of a burial ground to trustees, and in this connection it gives me pleasure to commend the energy and interest manifested by my associates in the discharge of their trust, Messrs. Fred Woodies and Frank B. Dow.

An ordinance was passed last year that makes provision for the receipt, care, and disposition of moneys paid to the treasurer of the city for the care and preservation of burial lots in the Edson cemetery. The amount expended by this department during the year was \$9,336.23.

STATE AID.

The Act of the year 1890, Chapter 447, as supplemented by the Act of the year 1893, Chapter 237, requires relief to be furnished to indigent soldiers and sailors and their families, by cities and towns under certain conditions. In this city such aid has been furnished to some extent under the direction of the Overseers of the Poor.

I recommend that a special appropriation be made for the purpose, and that the investigation of applications for aid, and the disbursement thereof, be made by the Secretary of the State Aid Committee.

The whole amount disbursed by the State Aid Department during the past year was \$18,884.00.

PAUPERS.

The increased hospital accommodations at the City Farm have been fully tested during the year. There are 500 in the almshouse, dividing the classes as follows: Paupers, 198; chronic insane, 104; workhouse, 159; inmates of the Reform School, 39.

The expenditures for the year amount to \$86,965.82.

Fire apparatus and appliances at the City Farm have been increased and improved during the year. Other projects are under consideration to improve the fire service at this Institution.

CHARTER AND ORDINANCES.

Notwithstanding the adverse vote at the recent election upon the acceptance of the Legislative Act embodying changes in the charter, I am very clear in my own mind that there is a necessity for improvement in the organic law of the city to conform to the changed conditions since the existing charter was adopted. In our city there seems to exist among the voters a feeling of timidity or ultra conservatism that will have to be overcome before substantial changes can be made in the charter of the city.

VOTING PRECINCTS.

I am gratified to state that my recommendation of last year, that a division of the ward precincts be made with a view to lessening the number of voters in the larger precincts, has been adopted by the City Council, and will go into effect this year.

The number of voters in each precinct under the new arrangement will be approximately as follows :

WARD ONE.

Precinct 1.....	415
2.....	395
3.....	467
4.....	436

WARD TWO.

Precinct 1.....	368
2.....	416
3.....	566
4.....	364
5.....	550

WARD THREE.

Precinct 1.....	553
2.....	532
3.....	460
4.....	623
5.....	484

WARD FOUR.

Precinct 1.....	639
2.....	611
3.....	582
4.....	586
5.....	320

WARD FIVE.

Precinct 1.....	420
2.....	410

Precinct 3.....	520
4.....	510
5.....	380

WARD SIX.

Precinct 1.....	405
2.....	362
3.....	463
4.....	508
5.....	509

GRADE CROSSINGS.

Proceedings are pending in Court for the abolition of certain grade crossings in this city, and action will soon be taken thereon.

RENUMBERING STREETS.

The buildings in the streets of the city have been renumbered during the past year, and a plan adopted whereby provision is made for the numbering of new buildings erected in such streets, a certain number of feet being allowed each lot.

I recommend that action be taken early in the present year to remove the cause for confusion now existing by reason of certain streets and ways in the city having the same or similar designation. A report should speedily be made to a committee of the City Council of such streets or ways, and immediate steps be taken to apply a remedy.

CONCLUSION.

Lowell is no longer a town or a small city; its growth in population and wealth, and increase of area give it rank as a large municipality, and its affairs should be administered with foresight, and a wise regard for its present needs and its prospective development.

The wise business manager adapts his business measures and appliances to meet the requirements incident to an increase of trade.

I counsel enlightened liberality in your consideration of the needs of the city, but I am equally desirous to caution you against the expenditures by loan or appropriation that savor of extravagance and forgetfulness of the debt limit of the city. Every measure should be carefully considered, and action upon it be determined by the measure of public benefit derivable from its passage, the urgency of it in that behalf as compared with other pending measures, the proportion of expense to benefit, and the condition of the city's finances. There is to be a to-morrow, a next week and a next year in the chronology of the city, a fact to be remembered when the cry for large public improvements is heard in the corridors of City Hall.

From the various walks of life we have been chosen by the people as its servants, to administer the affairs of the city for the present municipal year.

Some of us have had recent experience in the service of the city, and all of us are called on day by day to exercise judgment in the management of our business affairs.

Let us pursue a line of policy that will satisfy our own consciences at the close of our term of service, whatever may be the criticism of others. Let us be faithful.

MUNICIPAL REGISTER:

CONTAINING

RULES AND ORDERS

OF THE

CITY COUNCIL,

AND A LIST OF

THE GOVERNMENT AND OFFICERS OF THE CITY OF LOWELL.

1894.



LOWELL, MASS.:

VOX POPULI PRESS: S. W. HUSE & CO.

1894.

JOINT RULES AND ORDERS OF THE CITY COUNCIL.

1. In the month of January joint standing committees shall be appointed as follows:

A COMMITTEE ON ACCOUNTS,
A COMMITTEE ON CLAIMS,
A COMMITTEE ON EDUCATION,
A COMMITTEE ON THE FIRE DEPARTMENT,
A COMMITTEE ON LANDS AND BUILDINGS,
A COMMITTEE ON MILITARY AFFAIRS,
A COMMITTEE ON ORDINANCE AND LEGISLATION,
A COMMITTEE ON PRINTING,
A COMMITTEE ON STREETS,
A COMMITTEE ON COMMONS.

Each committee shall consist of two Aldermen and three members of the Common Council, except the Committee on Streets, which shall consist of two Aldermen and five members of the Common Council.

2. Each board shall, in such manner as it may determine, select its own members for any joint committee.

3. In all joint standing committees, except that on Finance, the member first named in the Board of Aldermen shall be chairman; on the Committee on Finance, the member first named in the Common Council shall be chairman; and in all joint special committees, the member first named in the board where

the business originates shall be chairman, and shall call the committee together.

4. Reports of committees shall be made to the board first meeting after such reports are prepared and signed.

5. No committee shall act by separate consultation, and no report shall be received unless agreed to in committee actually assembled.

6. It shall be the duty of every joint committee (the Committee on Streets excepted), to whom any subject may be specially referred, to report thereon within five weeks, or ask for further time.

7. The by-laws of the city shall be termed ordinances; the enacting clause of which shall be—"Be it ordained by the City Council of the City of Lowell, as follows:"

8. An ordinance may originate in either board, and shall be considered in three several stages. It shall first be read for information, and the question shall then be on ordering it to a second reading; but if it has not previously been in the hands of some joint committee, it shall first be so referred. When reported back, the recommendations of the committee shall first be acted on. If it shall then be ordered to a second reading, it shall next be examined by a standing committee of that board, who shall see that it is drawn in proper form. When returned by such committee, the question shall be on ordering it to be enrolled. If so ordered, it shall then be sent to the other board, where the same order of proceeding shall be observed. When it has been ordered by both branches to be enrolled, it shall be enrolled by the Clerk of the Common Council, and shall be by him submitted to the proper committee of that board, to ascertain if it has been correctly enrolled. If so reported, the question shall be on passing it to be ordained. If it shall so pass, it shall be signed by the President of the Common Council, and be sent to the Board of Aldermen, where it shall take a like course. If passed to be ordained in that board, it shall be signed by the Chairman

of the Board of Aldermen, and be sent to the Mayor for his approval.

9. Every joint resolution shall be read in the board in which it is introduced, and the question shall be upon ordering it to a second reading. If so ordered, the question shall then be upon its passage. If passed, it shall be sent to the other board, where the order of proceeding shall be the same. When passed by both boards, the resolution shall be presented to the Mayor for his approval, and when the same shall be in force, shall be enrolled by the Clerk of the Common Council, and when found correctly enrolled as provided in the case of an ordinance it shall be signed by the President of the Common Council and the Chairman of the Board of Aldermen, and be presented to the Mayor for his signature if he approved the original.

10. Joint orders shall require but one reading, and when adopted, shall be sent to the Mayor for his approval, except when they relate to a question of a convention of the two branches, or the election of any officer.

11. An ordinance may be rejected in any stage, but may not pass through all its stages in the same day.

12. Every appropriation of money exceeding fifty dollars shall be by resolution.

13. Each board shall transmit to the other all papers on which any ordinance, joint resolution, or order shall be founded; and all papers, on their passage between the two boards, shall be under the signature of their respective clerks, except ordinances and joint resolutions in their last stage, which shall be signed by the presiding officers. If papers come before either board which have been duly acted upon in the other board, the presiding officer shall so state without reading the endorsements of the clerk, unless the latter are called for.

14. All enrolled ordinances shall be written in a fair and legible hand, without interlineations or erasures, and no enrolled ordinance or resolution shall be amended.

15. When either board does not concur with the other in any ordinance or resolution sent from the other, notice of such non-concurrence shall be given by a written message.

16. In any case of non-concurrence, each board may appoint a Committee of Conference. Such committee shall consist, in each case, of three members who support the vote of their own board. These two committees may meet jointly or separately, and a majority of each shall decide its action.

17. No committee shall enter into any contract with any of its members, or purchase, or authorize the purchase of, any article therefrom.

18. No chairman of any committee shall audit or approve any bill or account against the city, for any supplies or services, which shall not have been ordered or authorized by the committee.

19. All reports and other papers submitted to the City Council shall be written in a fair hand, without endorsement, except in case of the introduction of an order or resolution. In such a case, the member introducing an order or resolution shall subscribe his name at the bottom of the back of the same. All other endorsements upon the back of papers shall be made by the clerk; and the clerks of the boards, respectively, shall, on seasonable notice, make copies of any papers to be reported by committees, at the request of the respective chairman thereof.

20. No business shall be transacted by the City Council in convention, except such as shall have been previously agreed on, unless by unanimous consent.

21. After the annual appropriations shall have been passed, no subsequent expenditure shall be authorized for any object, unless provision for the same shall be made by a specific transfer from some of the appropriations contained in the annual resolution, or by expressly creating therefor a city debt; but no such debt shall be created unless the resolution authorizing the same pass by the affirmative votes of two-thirds of the whole

number of each branch of the City Council, said votes to be taken by yeas and nays, excepting in cases of appropriations for the providing of armories for the use of military companies, for the celebration of holidays, and for other purposes of a public nature, when a vote of two-thirds of the members of each branch of the City Council present and voting shall be sufficient; but the amount of such appropriations named in this clause shall not exceed one-fiftieth part of one per cent. of the valuation of the city for the same year.

22. In ballotings in joint convention, blanks shall not be counted.

23. When both boards are in session at the same time, neither shall adjourn without giving notice to the other of its intention.

24. Reports of city officers, after being presented, shall remain in the office of the City Clerk two weeks before being printed.

25. All papers, of whatever description, relating to business requiring concurrent action of both boards of the City Council must be presented to the City Clerk, or the Clerk of the Common Council, not later than noon on the day the meeting is to be held. Petitions, reports, or other papers presented after that hour will not be taken up for action thereon until the next meeting.

26. These rules may be suspended for a specific purpose, or amended, whenever twenty-two members of a joint convention of the two branches shall so direct, or whenever a joint order to that effect shall be passed by the votes of six members of the Board of Aldermen and sixteen members of the Common Council.

RULES AND ORDERS OF THE BOARD OF ALDERMEN.

1. At the appointed time the presiding officer shall take the chair, and, on the appearance of a quorum, proceed to business.

2. The order of business shall be as follows:

First.—At all regular meetings the journal of the last regular meeting and all intervening meetings of the board shall be approved without reading, unless the reading be called for by some member of the board.

Second.—Petitions and similar papers.

Third.—Appointments, elections, etc.

Fourth.—New business, which, unless otherwise ordered, will take its place at the foot of Orders of the Day.

Fifth.—Orders of the Day, consisting of unfinished business of the last previous meeting, papers from the Common Council, and such matters as have been introduced as new business. By a vote of six members, any matters in the Orders of the Day, may at any time be taken up for immediate consideration.

3. The presiding officer shall decide all points of order, subject to appeal. He may read while sitting, but must rise to put a question. He shall allow debate on a question until the vote has been declared, but not on the verification of a vote; and on a demand of two members, shall take every vote by yeas and nays.

4. When a question is under debate, the presiding officer shall receive no motion but to adjourn, to take up a special

assignment, to lay on the table, to postpone to a day certain, to commit, to amend, or to postpone indefinitely. These several motions shall have precedence in the foregoing order, and debate upon any of them shall be confined to the actual motion, and shall not go into the merits of the main question, except on amendment.

5. When a vote has passed, except for adjournment or to lay on the table, any member voting with the majority may move a reconsideration, to be acted upon at the same meeting. Any member voting with the minority may move a reconsideration, to be acted upon at the next meeting, which latter motion shall have priority, if made before the motion first mentioned shall have been decided. No motion shall be twice reconsidered.

6. No member shall be interrupted while speaking, but by a call to order, or for the correction of a mistake; nor shall there be any conversation among the members while a paper is being read, or a question stated from the chair.

7. When any member is about to speak in debate, he shall rise in his place and respectfully address the presiding officer, shall confine himself to the question under debate, and avoid personality.

8. In the month of January the following committees shall be appointed:—

A COMMITTEE ON BILLS IN SECOND READING.

A COMMITTEE ON ELECTRIC WIRES.

A COMMITTEE ON ENROLLMENT.

A COMMITTEE ON LICENSES.

A COMMITTEE ON LIGHTING STREETS.

A COMMITTEE ON POLICE.

A COMMITTEE ON REPAIRS OF STREETS.

A COMMITTEE ON SEWERS.

A COMMITTEE ON WEIGHTS AND MEASURES.

A COMMITTEE ON STATE AID.

The Committees on Licenses, on Police, on Sewers, and on Electric Wires shall consist of three members each; the other committees shall be composed of two each.

9. Every member present shall be held obliged to vote on all questions, and not to leave without permission, if his presence is necessary to make a quorum.

10. The clerk shall prepare for the use of the board a copy of the Orders of the Day, to which shall be added a list of matters laid on the table or postponed to a day certain.

11. When a reference is proposed to more than one committee the question shall first be upon a standing committee of the board, then a special committee, then a joint standing committee, and last a joint special committee.

12. These rules may be amended or suspended whenever two-thirds of the members present may so vote; but a motion to amend shall not be made and finally acted upon at the same meeting.

13. All petitions for the appointment or removal of police officers and watchmen shall, before action thereon is taken by the board, be referred to the Committee on Police.

14. All nominations of persons to serve as police officers and watchmen shall, before action thereon by the board, be referred to the Committee on Police, who shall report upon such regulations at or before the next regular meeting after such reference.

15. All papers, of whatever description, which may require action by this board, shall be presented to the City Clerk not later than the hour of noon on the day of each regular meeting. Petitions, reports, and other papers, presented after that hour on such day, will not be considered until the next meeting.

RULES AND ORDERS OF THE COMMON COUNCIL.

1. The President shall take the chair precisely at the hour appointed for the meeting, call the members to order, and within ten minutes (or sooner, if a quorum be present), he shall cause the roll to be called, and the names of absentees recorded. The first business after the roll-call shall be the approval of the records of the previous meeting, which shall be approved without reading, unless their reading be called for by some member. In the absence of the President the oldest member present shall call the Council to order, and preside until a President *pro tempore* be chosen.

2. He shall preserve order and decorum; may speak to points of order in preference to other members, rising from his seat for that purpose, and shall decide questions of order subject to an appeal to the Council by any member.

3. He shall rise to address the Council, to state facts, but may put questions, or read, sitting.

4. He shall declare all votes; but if a vote be doubted, the President shall, without further debate, require the members voting in the affirmative and negative to rise and stand until they are counted, and he shall declare the result.

5. He may call any member to the chair, but such substitution shall not extend beyond an adjournment, and when out of the chair, the President may express his opinion on any subject under debate, and he shall not resume the chair while the same question is pending.

6. All questions shall be propounded in the order in which they are moved, unless the subsequent motion be previous in its nature.

7. After a motion is stated by the President, it shall be disposed of by a vote of the Council, unless the mover withdraw it before a decision or amendment.

8. A motion to adjourn shall always be in order; that and the motion to lay on the table shall be decided without debate.

9. The previous question shall be in this form: "Shall the main question be now put?" It shall only be admitted when demanded by a majority of members present, and, until it is decided, shall preclude all amendment and further debate of the main question.

10. The yeas and nays shall be taken on any question upon the request of one-third of the members present.

11. When two or more members happen to rise at the same time, the President shall name the member who shall speak first.

12. When any member is about to speak in debate, or deliver any matter to the Council, he shall rise in his place and respectfully address the presiding officer, confining himself to the question under debate, and avoid personality.

13. No member shall be mentioned in debate by his name, but may be described by the place he sits in, or such other designation as may be intelligible and respectful.

14. No member speaking shall be interrupted by another, but by a call to order or to correct a mistake. If any member, in speaking or otherwise, transgresses the Rules of the Council, the President shall, or any member may, call him to order; in which case the member so called to order shall immediatly be seated, until the question of order is decided. If the decision be in favor of the member called to order he shall be at liberty to proceed; if otherwise he shall not proceed without the leave of the Council.

15. No member shall speak more than twice to the same question without obtaining leave of the Council.

16. Whilst the President or any member is speaking, none shall stand up or pass unnecessarily before the person speaking.

17. Every motion shall be reduced to writing, if the President or any member require it.

18. When a question is under debate, no motion shall be received but to adjourn, to lay on the table, for the previous question, to postpone to a certain day, to commit, to amend, or to postpone indefinitely; which several motions shall have precedence in the order in which they are arranged; and no motion to postpone or commit shall be allowed twice in the same day, in the same stage of the ordinance or proposition.

19. When a vote has passed, except for adjournment or to lay on the table, any member voting with the majority may move a reconsideration, to be acted upon at the same meeting. Any member voting with the minority may move a reconsideration, to be acted upon at the next meeting; which latter motion shall have priority, if made before the motion first mentioned shall have been decided. No motion shall be twice reconsidered.

20. Every member who shall be in the Council when a question is put shall give his vote, unless the Council, for special reasons, excuse him.

21. No motion or proposition, on a subject different from that under consideration, shall be admitted under color of an amendment.

22. All reports may be committed or recommitted at the pleasure of the Council.

23. The division of a question may be called for when the sense will admit of it.

24. When the reading of a paper is called for and objected to, it shall be determined by a vote of the Council.

25. No standing order of the Council shall be suspended,

unless three-fourths of the members present consent thereto ; nor shall any rule or order be repealed or amended without one day's notice being given of the motion therefor, nor unless a majority of the whole Council concur therein.

26. All committees, except such as the Council determine to select by ballot, shall be nominated by the President.

27. No member shall be obliged to serve on more than two committees at the same time, or be chairman of more than one.

28. All memorials and other papers addressed to the Council shall be presented by the President, or by a member in his place, who shall explain the subject thereof; and they shall be taken up in the order in which they were presented, unless the Council shall otherwise direct.

29. Standing committees shall be appointed on the following subjects :—

ON SECOND READING OF BILLS AND ORDINANCES,
ON ENROLLMENT,
ON ELECTIONS AND RETURNS.

30. No committee shall sit during the sittings of the Council without special leave, except the Committee on the Second Reading of Bills and Ordinances and the Committee on Enrollment.

31. The rules of proceeding in the Council shall be observed in the Committee of the Whole, so far as they are applicable except the rule limiting the time of speaking.

32. When a committee is nominated by the chair, the person first named shall be chairman. In election of committees by ballot, when a chairman is not specially chosen, the person having the highest number of votes shall act as chairman; and in case of an equality in votes between two or more members of a committee, the members thereof shall choose a chairman.

33. All ordinances and resolutions shall have two several readings before they shall be finally passed by this Council.

34. All ordinances before being read a second time shall be referred to the Committee on the Second Reading of Bills and Ordinances, and after being reported upon by said committee, shall be again read, after which second reading the question shall be on passing the same to be enrolled.

35. No ordinance or resolution imposing penalties, or authorizing the expenditure of money, shall have more than one reading the same day.

36. The seats of the Common Council shall be numbered and determined by lot, and no member shall change his seat but by permission of the President.

37. All committees of the Council shall consist of three members, unless a different number be specially ordered; and no report shall be received from any committee unless agreed to in committee actually assembled; and all reports shall be in writing.

38. It shall be the duty of every committee of the Council, to whom any subject may be specially referred, to report thereon within five weeks, or ask for further time.

39. The clerk shall keep brief minutes of the votes and proceedings of the Council, entering thereon all accepted resolutions; shall notice reports and memorials, and other papers submitted to the board, only by their titles or a brief description of their purport.

40. All salary officers shall be chosen by written or printed ballots; and in the election of any officers by ballot, blanks shall not be counted.

41. Members of the Council may attend meetings of any of its committees, but shall not vote thereat.

42. The Clerk of the Common Council shall keep the record of committees who may require that service; and on the appointment of every standing committee, a book for records shall be provided by its chairman, or by said clerk. The clerk

shall have the custody of all minutes by him kept; and the records of the several committees shall be open to the inspection of the members of the City Council.

43. Any member offering a resolution shall write his name on the bottom of the back of such resolution.

44. With the exception of an order for a joint convention, any joint order originating in the Common Council shall be copied, and shall, previous to the hour for calling the meeting to order, be posted in some prominent place in the Council Chamber, where it may be open to the inspection of the members.

CITY GOVERNMENT FOR 1894.

MAYOR.

JOHN J. PICKMAN,
No. 11 Huntington Street.

BOARD OF ALDERMEN.

ELWYN W. LOVEJOY.....*Chairman.*
CHARLES N. BAGLEY.....79 Andrews Street
WATSON A. DICKINSON 184 Branch Street
FRANK DUNLAP.. 646 Gorham Street
COOLIDGE R. JOHNSON.....181 Mt. Vernon Street
STEPHEN J. JOHNSON.....328 Suffolk Street
ELWYN W. LOVEJOY.....813 Broadway
GEORGE E. STANLEY.....135 Beacon Street
WILLIAM E. WESTALL.....73 Mansur Street
MICHAEL J. DOWD.....Clerk.

COMMON COUNCIL.

THOMAS J. SPARKS.....*President.*

Ward One.

MATTHEW M. MANSFIELD.....169 Broadway
PATRICK J. O'BRIEN 609 Market Street
FRED H. ROURKE.....427 Worthen Street, L. M. S. Corp.
JOHN J. RYAN.....38 Lewis Street

Ward Two.

J. HENRY COLLINS.....	7 Richardson Avenue
JOHN G. GORDON	94 John Street
FRED W. SANBORN.....	38 Fred Street
GEORGE H. TRYDER.....	42 West Third Street

Ward Three.

JOSEPH H. GORMLEY.....	18 Lyon Street
JOHN J. O'CONNELL.....	732 Lawrence Street
JOHN JOSEPH O'CONNOR	25 Wamesit Street
THOMAS J. SPARKS.....	45 Elm Street

Ward Four.

GEORGE E. BARCLAY	93 Forrest Street
WILLIAM L. HILLS.....	81 Branch Street
CHARLES T. KILLPARTRICK.....	609 Stevens Street
LUTHER F. KITTREDGE	6 Jenness Street

Ward Five.

PATRICK J. CUSTY	96 Mt. Washington Street
FREDERICK E. LABARGE.	117 Butterfield Street
CHARLES H. NOBLE.....	862 Broadway
JOHN OLIVER.....	330 Pawtucket Street

Ward Six.

WILLIAM T. BENSON.....	354 Lawrence Street
WILEIAM F. CURTIN.....	45 High Street
CHARLES RILEY.....	1 Wall Street
ANTHONY ROBINSON.....	80 Church Street

MEETINGS OF THE CITY COUNCIL.

The regular meetings of the City Council are held at the City Hall as follows:—

Board of Aldermen.

January.....2 and 16	July.....3 and 17
February.....6 and 20	September.....4 and 18
March. 6 and 20	October.....2 and 16
April.....3 and 17	November.....6 and 20
May.....1 and 15	December.....4 and 18
June.....5 and 19	

At 7:30 P. M.

Common Council.

January.....9 and 23	July.....10 and 24
February.....13 and 27	September.....11 and 25
March.....13 and 27	October.....9 and 23
April.....10 and 24	November.....13 and 27
May.....8 and 22	December.....11 and 25
June.....12 and 26	

At 8 P. M.

JOINT STANDING COMMITTEES OF THE CITY COUNCIL.

FINANCE.—The Mayor and Alderman Lovejoy; Councilmen Rourke, Gordon, and Robinson.

APPROPRIATIONS.—The Mayor and Aldermen Lovejoy, Westall, Bagley, and S. J. Johnson; Councilmen O'Connor, Rourke, Killpartrick, and Tryder.

ACCOUNTS.—Aldermen Stanley and Dickinson; Councilmen O'Connor, Curtin, and Oliver.

CLAIMS.—Aldermen S. J. Johnson and Dunlap; Councilmen Robinson, Riley, and Oliver.

COMMONS.—Aldermen Dunlap and Coolidge R. Johnson; Councilmen O'Connell, Killpartrick, and Hills.

EDUCATION.—Aldermen Bagley and Westall; Councilmen Rourke, Gordon, and Collins.

FIRE DEPARTMENT.—Aldermen Dickinson and C. R. Johnson; Councilmen Gormley, Mansfield, and Tryder.

LANDS AND BUILDINGS.—Aldermen Westall and Dunlap; Councilmen O'Connor, Custy, and Barclay.

MILITARY AFFAIRS.—Aldermen Bagley and Dickinson; Councilmen Robinson, Curtin, and Sanborn.

ORDINANCES AND LEGISLATION.—Aldermen Stanley and Westall; Councilmen O'Brien, Curtin, and Collins.

PRINTING.—Aldermen Lovejoy and Westall; Councilmen O'Connor, O'Connell, and Hills.

STREETS.—Aldermen Lovejoy and Stanley; Councilmen Custy, Noble, O'Connell, Kittredge, and Benson.

STANDING COMMITTEES OF THE BOARD OF ALDERMEN.

BILLS IN SECOND READING.—Aldermen Dunlap and Bagley.

ELECTRIC WIRES.—Aldermen C. R. Johnson, Dunlap, and Dickinson.

ENROLLMENT.—Aldermen Bagley and Dunlap.

LICENSES.—Aldermen Westall, S. J. Johnson, and Stanley.

LIGHTING STREETS.—Aldermen Dickinson and Bagley.

POLICE.—Aldermen Westall, S. J. Johnson, and Stanley.

REPAIRS OF STREETS.—Aldermen Lovejoy and Stanley.

SEWERS.—Aldermen Bagley, Lovejoy, and Dickinson.

STATE AID.—Aldermen Westall and Lovejoy.

WEIGHTS AND MEASURES.—Aldermen C. R. Johnson and Dunlap.

STANDING COMMITTEES OF COMMON COUNCIL.

BILLS IN SECOND READING.—Councilmen Labarge, Ryan, and Collins.

ELECTIONS AND RETURNS.—Councilmen Rourke, Ryan, and Sanborn.

ENROLLMENT.—Councilmen Labarge, O'Brien, and Hills.

CITY OFFICERS, 1894.

CITY CLERK.

MICHAEL J. DOWD.....Office, City Hall

Chosen by the City Council in convention in January. City Charter, Sect. 17.

CITY TREASURER AND COLLECTOR OF TAXES.

OFFICE, CITY HALL.

AUSTIN K. CHADWICK, resigned March 20, 1894.

JOHN H. HARRINGTON, elected March 27, 1894.

Chosen by the City Council in convention in January. City Charter, Sect. 17.

AUDITOR OF ACCOUNTS.

DAVID CHASE.....Office, City Hall

Chosen by concurrent vote in January or February. Ord., Chap. 2, Sect. 1.

SUPERINTENDENT OF STREETS.

ROBERT E. CROWLEY Office, City Hall

Chosen by concurrent vote in January or February. Ord., Chap. 35, Sect. 1.

SURVEYORS OF HIGHWAYS.

Alderman ELWYN W. LOVEJOY; Councilmen LUTHER F. KIT-
TREDGE and WILLIAM T. BENSON.

Chosen by concurrent vote in January or February. City Charter, Sect. 17; Ord., Chap. 35, Sect. 1.

CIVIL ENGINEER FOR THE CITY.

GEORGE BOWERS.....Office, City Hall

Chosen by concurrent vote in January or February. Ord., Chap. 13, Sect. 1.

CITY MESSENGER.

JAMES H. CAHILL.....Office, City Hall

Chosen by concurrent vote in January. Ord., Chap. 10, Sect. 1.

CITY SOLICITOR.

JOHN J. HOGAN.....Office, Central Street

Chosen by concurrent vote in January or February. Ord., Chap. 11, Sect. 1.

LIBRARIAN OF THE CITY LIBRARY.

FREDERICK A. CHASE.....Office at the Library

Chosen by the Board of Trustees of the City Library. Chap. 231, Sect. 5, Acts 1888.

TRUSTEES OF THE CITY LIBRARY.

JOHN J. PICKMAN, Mayor, *Ex-Officio*.....Chairman

LARKIN T. TRULL.....Secretary

LARKIN T. TRULL.....Term Expires 1895

STEPHEN J. JOHNSON.....“ “ 1896

PHILIP J. FARLEY.....“ “ 1897

FRANK P. PUTNAM.....“ “ 1898

GEORGE F. RICHARDSON.....“ “ 1899

Appointed by the Mayor in December. Chap. 231, Acts 1888.

Regular meeting last Tuesday in each month.

SUPERINTENDENT OF PUBLIC BUILDINGS.

RICHARD BRAY.....Office, City Hall

Chosen by concurrent vote in January or February. Ord., Chap. 5, Sect. 1.

CITY PHYSICIAN.

OMER P. PORTER.....Office, Board of Health

Appointed by the Mayor and Aldermen in January, 1894, for three years. Public Statutes, Chap. 80, Sect. 15.

SUPERINTENDENT OF BURIALS.

FREDERICK A. BATES.....Office, Board of Health

Chosen by concurrent vote in January or February. Ord., Chap. 4, Sect. 1.

ASSESSORS OF TAXES.

JOHN P. MAHONEY.....Term Expires 1895

ABEL WHEELER....." " 1896

NATHAN D. PRATT....." " 1897

ABEL WHEELER.....*Chairman.*

NATHAN D. PRATT.....*Secretary.*

STEPHEN J. KIRBY.....*Clerk.*

Chosen by concurrent vote in January or February, one member retiring annually. Ord. 1890.

ASSISTANT ASSESSORS OF TAXES.

WARD 1.....FRANK B. HAWES

" 2.....ROBERT L. READ

" 3.....GEORGE A. LOCKE

" 4.....C. ARTHUR ABBOTT

" 5.....AVILA BOURBONNIERE

" 6 } GEORGE S. CUSHING, Died Feb. 23, 1894.
HENRY HOOLE, Elected Mar. 20, 1894.

Term expires first Monday in January, 1895. Nominated by the Mayor and confirmed by the Board of Aldermen biennially. Ord. 1890.

OVERSEERS OF THE POOR.

JOHN J. PICKMAN, Mayor.....*Ex-Officio*

JOHN J. KEEFE.....Term Expires 1892

CHARLES L. MARREN.. " " 1892

JOHN J. DONOVAN....." " 1892

JOHN NOLAN.....	Term Expires	1893
JAMES GOOKIN.....	“	“ 1893
JOSEPH DEXTRA.....	“	“ 1893

JOHN J. PICKMAN..... *Chairman.*

CHARLES H. RICHARDSON..... *Secretary.*

Chosen for two years in January, one-half retiring annually. City Charter, Sect. 29.
Regular meeting last week day of the month, at City Farm.

Secretary's office, City Hall. Office hours, 9 A. M to 3 P. M.

JAMES F. WALSH and NELLIE A. KEYES, *Clerks.*

List of Committees.

ACCOUNTS—Marren, Dextra, Keefe.

AGRICULTURE—Donovan, Keefe, Dextra.

OUTDOOR RELIEF—Mayor, Dextra, Donovan.

CARE AND REPAIR OF BUILDINGS—Gookin, Nolan, Keefe.

CLOTHING—Keefe, Gookin, Donovan.

PROVISIONS AND SUPPLIES—Mayor, Nolan, Gookin.

DISPENSARY—Nolan, Gookin, Marren.

WOOD YARD—Dextra, Nolan, Marren.

Ward and Dispensary Physicians.

WARD 1—	L. J. McDONOUGH.....	296 Market Street
“ 2—	A. J. HALPIN.....	26 Central Street
“ 3—	JOSEPH H. MULCAHY.....	Runels Building
“ 4—	W. G. EATON.....	417 Middlesex Street
“ 5—	W. A. JOHNSON.....	25 Kirk Street
“ 6—	CHARLES H. RICKER... ..	2 Wyman's Exchange

City Dispensary.

CITY HALL.

JOHN F. BOYLE, *Clerk.*

Open week days—9 A. M. to 1 P. M., and 2.30 to 6.30 P. M.

OFFICERS AT CITY FARM.

CORNELIUS E. COLLINS, *Superintendent.*JAMES J. QUINN, *Teacher and Chaplain.*

Elected by the Overseers of the Poor, annually, at last meeting in December.

MEMBERS OF THE LOWELL WATER BOARD.

OFFICE, CITY HALL.

MILES F. BRENNAN.....*President.**From the Board of Aldermen:* GEORGE E. STANLEY.*From the Citizens:*

MILES F. BRENNAN.....	Term	Expires	1895
RICHARD B. ALLEN.....	"	"	1896
GEORGE E. PUTNAM.....	"	"	1897
AUGUST FELS.....	"	"	1898

CHARLES L. KNAPP, *Clerk.*ROBERT J. THOMAS, *Superintendent.*

The members of the Lowell Water Board are chosen by concurrent vote in January or February for a term of four years from the first Monday of March following their election one member retiring annually. The member from the Board of Aldermen is elected annually.

The Superintendent is chosen in March by the Board.

The Clerk is chosen by the Board in June. Ord. 1889, amending Chap. 39 of the revised Ordinances.

COMMISSIONERS OF SINKING FUND.

PETER F. CONATON.....	Term	Expires	1895
JOHN H. COFFEY.....	"	"	1896
STEPHEN B. PUFFER.....	"	"	1897

JOHN H. HARRINGTON, *Secretary and Treasurer.*

The Commissioners are elected under the provisions of Chap. 29 of the Public Statutes, Sect. 10.

BOARD OF CIVIL SERVICE EXAMINERS.

JOHN J. COLTON, M. D., CHARLES H. CONANT, JOSEPH SMITH.
CHARLES H. CONANT, *Secretary*.

FIRE DEPARTMENT, 1893-94.

The Chief Engineer is appointed by the Mayor and Aldermen in the month of March or April, for the term of three years from the first day of May next succeeding.

The Assistant Engineers are appointed annually by the Mayor and Aldermen in the month of March or April, for the term of one year from the first day of May next succeeding. All other members of the Fire Department are nominated by the Board of Engineers, and appointed by the Mayor and Aldermen; and vacancies may be filled.

City Charter, Sect. 31; Ord., amending Chap. 20, Sect. 1; Pub. Stat.; Chap. 35.

Chief Engineer.

EDWARD S. HOSMER.....202 Westford Street
Office, Engine House, Middle Street.

Assistant Engineers.

JAMES F. NORTON.....22 Ames Street
GEORGE F. SALMON..... 91 Mt. Washington Street
EDWARD MELOY.....166 Charles Street
HENRY W. BURTON..... 15 Kimball Avenue

JAMES F. NORTON, *Clerk of the Board*.

The Clerk is chosen by the Engineers.

Operator of the Fire Alarm Telegraph.

G. B. WHITNEY..... Residence, 535 Fletcher Street

Committee on Fire Department.

Aldermen DICKINSON and C. R. JOHNSON; Councilmen GORMLEY, MANSFIELD, and TRYDER.

POLICE DEPARTMENT.

City Charter, Sect. 19; Ord., Chap. 28; Chap. 279, Acts of 1867. Ord. 1892.

The members of this Department, except the Chief of Police, are appointed by the Mayor and Aldermen as police officers and watchmen, with all the powers of constables, except the power of serving and executing civil process, and hold their offices during the pleasure of the Board of Aldermen.

Police Roll.

GEORGE R. DAVIS, Chief of Police.....	11	Huntington Street
JAMES A. MCQUADE, Senior Deputy.....	227	Concord Street
WILLIAM B. MOFFATT, Junior Deputy.....	43	London Street
FRANK GOODWIN, Inspector of Police.....	247	Appleton Street
THOMAS E. ALLEN, Inspector of Police.....	32	West Street
CHARLES LAFLAMME, Inspector of Police.....	249	School Street
MICHAEL E. McDONALD, Inspector of Police..	3	Huntington Street
DAVID J. DONALDSON, Inspector of Police, 506 E. Merrimack Street		
JAMES DUNLAVY, Sergeant of Police.....	22	Lagrange Street
WILLIAM R. KEW, Sergeant of Police.....	17	Princeton Street
JAMES E. WEBSTER, Sergeant of Police....	270	Westford Street
JACOB G. FAVOR, Warrant Officer.....	97	Chelmsford Street
WILLIAM G. BUMPS, Warrant Officer.....		Eighteenth Street
ISAAC L. LIBBY, Court Officer and Janitor.....	11	Coral Street
JAMES McLAUGHLIN, Keeper.....	219	Stackpole Street
JOHN R. MACKENZIE, Keeper.....	56	Arlington Street

Patrolmen.

BLOOD, JOSIAH S.....	70	Smith Street
BOYLE, JAMES.....	45	Hampshire Street
BRADY, PATRICK H.....		Cor. Crosby and Newhall Streets
BREAULT, ELOI N.....	53	Second Avenue
BREEN, DENNIS J.....	1	Cora Street
BROSNAN, JAMES.....	190	Perry Street
BUCHANAN, JOHN.....	106	Beech Street
CAWLEY, PETER.....	872	Bridge Street
CLEMENT, HORACE W.....	26	Eighteenth Street

CONNORS, MARTIN.....	282	Concord Street
CORCORAN, PETER T.	336	High Street
CREAHIN, JOHN.....	441	West Pine Street
CROWLEY, JOHN B.....	598	Market Street
CROWLEY, JOHN J.....	22	Walnut Street
CURRAN, PETER.....	50	Tremont Street
DENNETT, JOHN S.....	55	Reed Street
DOW, JAMES E.....	50	C Street
DOWNEY, HUGH.....	9	Chestnut Street
DUNCAN, ALEXANDER.....	107	South Highland Street
DUNFEY, JOHN M.....	1	Fourth Avenue
FARRINGTON, HENRY.....	5	Coral Street
FITZPATRICK, PATRICK... ..	30	West Pine Street
FOX, EDWARD.....		Lawrence Street
FOX, FRANK.....	20	Chambers Street
FOX, JOHN W.....	82	Lawrence Street
GALLIVAN, JOHN F.....	249	School Street
GARDNER, WILLIS L.....	452	Westford Street
GOODHUE, DAVID H.....	120	School Street
GRADY, WILLIAM H.....	39	Lundberg Street
GREGG, CHARLES.....	98	Fort Hill Avenue
GRINNELL, ENOCH N.....	110	Appleton Street
HICKSON, JOHN.....	60	Mammoth Road
HOGAN, DAVID H.....	48	Fremont Street
HOLLAND, JAMES E.....	34	Second Avenue
HOLMAN, ALFRED M.....	126	Powell Street
HOWARD, CORNELIUS.....	79	Andrews Street
HUBIN, JOHN D.....	72	Third Street
HURLEY, JAMES F.....	75	Woodworth Avenue
INGALLS, LINDSEY E.	110	Beech Street
JONES, WILLIAM B.....	221	Branch Street
KANE, BARTHOLOMEW.....	20	Mill Street
LEIGHTON, JOHN L.....	109	South Walker Street
LENNON, MICHAEL J.....	10	Pleasant Street
LANE, DANIEL W.....	38	School Street

LIBBY, ALBERT E.....	61 Eighteenth Street
MAGUIRE, HUGH.....	21 Richmond Street
MAHER, MARTIN A.....	31 Walnut Street
MARKHAM, JAMES.....	277 Lincoln Street
MARSHALL, GEORGE W.....	485 Parker Street
MCINTEE, CORMACK.....	113 Fulton Street
McKAY, JOHN H.....	130 Bartlett Street
McNABB, JAMES....	9 W. Meadow Road
MOORE, FRANCIS E.....	545 Middlesex Street
MULRY, JOHN J.....	71 Bowers Street
O'BRIEN, WILLIAM H..	43 East Pine Street
O'CONNELL, JOHN.....	9 Center Street
O'CONNELL, MICHAEL.....	724 Lawrence Street
O'DONNELL, PETER F.....	444 Merrimack Street
PAGE, ALONZO J.....	410 Westford Street
PALMER, GEORGE B.....	135 Aiken Avenue
PROVENCHER, NAPOLEON.....	39 Fourth Avenue
QUINN, HENRY F.....	228 Lakeview Avenue
RILEY, JAMES.....	150 Pleasant Street
RYAN, BARTHOLOMEW.....	568 Lawrence Street
RYDER, CHESTER E.....	855 Lawrence Street
SANBORN, THOMAS J.....	126 Grove Street
STOWELL, ROBERT.....	341 Lawrence Street
SWAN, EDWARD T.....	30 Congress Street
TILTON HERMON N.....	14 Whipple Street
WALSH, JOHN A....	53 Third Avenue
WELCH, REDMOND, JR.....	42 North Street
WHITNEY, FRANK H.....	108 D Street
WHITTAKER, JOHN T.....	27 Congress Street

RESERVE POLICE.

ATKINSON, THOMAS R.....	
COLEMAN THOMAS F.....	73 Union Street
COGGER, DANIEL W.....	254 Beacon Street
HESSIAN, STEPHEN F.....	
HILL, EDWARD E.....	

KIERNAN, MICHAEL.....
 KNOWLES, JOHN W.
 McLoughey, THOMAS.....
 TILTON, JOHN W.....

KEEPER OF LOCK-UP.

GEORGE R. DAVIS.

MATRON.

MARGARET WALLACE.....10 William Street

SUPERINTENDENT OF POLICE TELEPHONE SYSTEM.

MICHAEL J. BURNS.....24 Fulton Street

OPERATOR.

JAMES H. HOWARD.

DRIVERS OF PATROL WAGON.

FREDERICK L. DAVIS.

J. W. TILTON.

HOSTLER.

J. W. KILBURN.

CONSTABLES.

HARRISON W. STREETER.

JOHN McMANUS.

FREDERICK A. BATES.

PETER CAWLEY.

FRANK GOODWIN.

JOHN P. SEARLE.

D. J. DONALDSON.

JOSEPH S. LAPIERRE.

JACOB G. FAVOR.

GEORGE R. DAVIS.

PIERRE A. BROSSÉAU.

W. R. KEW.

SIMON B. HARRIS.
 JOHN A. MCQUADE.
 EDWARD J. NOYES.
 DAVID FITZGERALD.
 REDMOND WELCH.
 JAMES F. DUNLAVEY.
 MICHAEL E. McDONALD.
 BERNARD F. GATELY.
 GEORGE JERARD.

ISADORE TURCOTTE.
 CHARLES LAFLAMME.
 CHARLES A. QUINN.
 HERMES DUVAL.
 JAMES A. MCQUADE.
 THOMAS E. ALLEN.
 LOUIS M. LEMERISE.
 JOSEPH A. BOURBONNIERE.
 WOODBRIDGE W. TUTTLE.

City Charter, Sect. 19; Ord. Chap. 37, Sect. 2.

POLICE COURT.

SAMUEL P. HADLEY..... *Standing Justice.*
 JOHN J. PICKMAN, }
 JOHN F. FRYE, }..... *Special Justices.*
 JAMES F. SAVAGE..... *Clerk.*

HEALTH COMMISSIONER.

GEORGE R. DAVIS.....Office, Police Station
 Chosen by concurrent vote by nomination commencing in the Board of Aldermen, in January or February. Ord., Chap. 37, Sect. 1.

BOARD OF HEALTH.

JAMES BAYLES, 1893-4.
 JAMES B. FIELD, M. D., 1894-5.
 OMER P. PORTER, City Physician, *Ex-Officio.*
 JAMES B. FIELD, M. D., *Chairman.*

Appointed by the Mayor and Board of Aldermen in January. Chap. 80, Pub. Stat. Sect. 8 and 15.; Ord., Chap. 22, Sect. 1.

BOARD OF REGISTRARS OF VOTERS.

JAMES F. OWENS.....	Term expires May 1, 1895
FRANK E. DUNBAR.....	“ “ “ 1896
GIRARD P. DADMAN.....	“ “ “ 1897

MICHAEL J. DOWD, City Clerk, *Ex-Officio*.

Chapter 417, Acts of 1894.

FENCE VIEWERS.

SIMON B. HARRIS. LEROY C. HALL. JOSHUA M. HADLEY.

Chosen by concurrent vote by nomination commencing in the Board of Aldermen in January or February. Ord., Chap. 37, Sect. 1.

FIELD DRIVERS.

W. H. GRADY.

W. R. KEW.

JAMES DUNLAVEY.

JAMES E. WEBSTER.

Chosen by concurrent vote commencing in the Board of Aldermen in January or February. Ord., Chap. 37, Sect. 1.

POUND KEEPER.

LAWRENCE J. THYNE.

Chosen by concurrent vote by nomination commencing in the Board of Aldermen in January or February. Ord., Chap. 37, Sect. 1.

SEALER OF WEIGHTS AND MEASURES.

JAMES R. FULTON.....

Appointed by the Board of Aldermen by nomination in March or April. Pub. Stat., Chap. 65, Sect. 8; Acts of 1882, Chap. 42. Ord., Chap. 37, Sect. 2.

INSPECTOR OF MILK AND VINEGAR.

THOMAS O. ALLEN..... Office, City Hall

Appointed by the Board of Aldermen by nomination in January or February. Ord., Chap. 37, Sect. 2.

**Inspector of Provisions and of Animals Intended for Slaughter or
Kept for the Production of Milk.**

THOMAS O. ALLEN.....Office, City Hall

Appointed by the Mayor and Aldermen annually in April. Acts of 1892, Chap. 195, Sect. 1; amending Pub. Stat., Chap. 58, Sect. 1.

INSPECTORS OF PETROLEUM OILS.

EDWARD S. HOSMER.

THOMAS O. ALLEN.

Appointed by the Mayor and Aldermen. Pub. Stat., Chap. 59, Sect. 6.

INSPECTORS OF BOILERS.

RICHARD DOBBINS.....Office, Tanner Street

BARTHOLOMEW SCANNELL... Office, 36 Tanner Street

JAMES A. READY.....

Pub. Stat., Chap. 102, Sect. 49.

INSPECTORS OF PROVISIONS.

FREDERICK A. BATES.....Office, Board of Health

GEORGE R. DAVIS.....Office, Police Station

DANIEL W. LANE.....“ “ “

JAMES E. WEBSTER.. “ “ “

Appointed by the Mayor and Aldermen. Pub. Stat., Chap. 58, Sect. 1.

FISH WARDEN.

SAMUEL PALMER.

Appointed by the Mayor and Board of Aldermen. Pub. Stat., Chap. 91, Sect. 42.

Measurer of Wood and Bark—Superintendent of City Scales—Inspector of Bale or Bundle Hay.

RICHARD J. NOONAN.....Office at City Scales, rear Market House Building.

Appointed by the Board of Aldermen in January or February. Ord., Chap. 40, Sect. 1. Chap. 21, Sect. 1.

**Measurers of Wood and Bark Brought by Water or Railroad Cars
into the City.**

JOHN F. BATEMAN.

JOSEPH HOVEY.

Appointed by the Board of Aldermen in January or February. Ord., Chap. 40, Sect. 1.

MEASURERS OF WOOD AND BARK.

HENRY K. GATES.....	
JOHN F. BATEMAN.....	
EDMUND BRICKETT..	
PATRICK COURTNEY.....	City Yard
ROBERT E. CROWLEY..	City Yard
JOHN DOYLE.....	
WILLIAM H. HARRIGAN.....	City Yard
JAMES HOWARD.....	Overseers of the Poor
CYRUS F. HILL.....	Lowell Machine Shop
JOSEPH HOVEY.....	
HARRY L. STANLEY.....	63 Moody Street
CLARENCE G. COBURN.....	

Appointed by the Board of Aldermen in January or February Ord., Chap. 40, Sect. 1.

MEASURERS OF GRAIN.

WILLIS J. HILL.

FRANK H. PARKER.

GEORGE W. TILTON.

HENRY J. WILLIAMS.

Fees 2½ mills a bushel for measuring. Appointed by the Board of Aldermen in January or February. Ord., Chap. 37, Sect. 2.

MEASURERS OF UPPER LEATHER.

EDWIN E. AREY.

WILLARD A. BROWN.

ROBERT BOOTH.

WILLIAM H. WHITE.

Appointed by the Board of Aldermen in April. Ord., Chap. 37, Sect. 2.

SURVEYORS OF LUMBER.

ALFRED P. BATEMAN.
 JOHN F. BATEMAN.
 FREDERICK CONANT.
 LEO A. MILLER.
 MELANCTHON M. ALLEN.
 FRANK P. CHENEY.
 PATRICK GAFFNEY.
 EDWARD W. LATOUR.
 GEORGE E. LEAVITT.
 CHARLES D. ROBINSON.

GEORGE C. HATCH.
 M. B. McDONALD.
 DANIEL R. McDONALD.
 JAMES MORAN.
 CYRUS F. HILL.
 JOHN H. HUNTLEY.
 EDWARD STOCKMAN.
 EPHRAIM SIMONDS.
 A. B. WOODWORTH, JR.

Chosen by concurrent vote by nomination commencing in the Board of Aldermen in January or February. Ord., Chap. 37, Sect. 1.

**SURVEYORS OF PLASTERING, BRICK OR STONE WORK,
AND PAINTING.**

JOHN F. BATEMAN.
 ALDEN B. ILSLEY.
 JOSEPH HOVEY.
 ATIS OSGOOD.
 WILLIAM A. FAVOR.

ORA M. SNELL.
 HENRY O. BROOKS.
 GEORGE BOWERS.
 MELVIN B. SMITH.
 PHILIP H. ILSLEY.

Appointed by the Board of Aldermen in January or February. Ord., Chap. 37, Sect. 2.

WEIGHERS OF HAY AND OTHER ARTICLES.

ROBERT E. CROWLEY.....City Stables
 EDMUND BRICKETT, at Scales, cor. Western Ave and Fletcher Street
 CLARENCE G. COBURN.....Scales, Pawtucket Square
 PATRICK COURTNEY.....City Stables
 L. E. HARMON.....
 WILLIAM H. HARRIGAN.....City Stables
 CYRUS F. HILL.....Lowell Machine Shop
 HARRY L. STANLEY.....63 Moody Street
 JOHN G. GORDON.....
 PATRICK MEERS.....

GEORGE H. FYRE.....
 GEORGE W. TILTON.....
 EDWARD CAWLEY.....
 DANIEL T. SULLIVAN.....
 JOHN J. COSTELLO.....
 FRANK H. PARKER.....
 WILLIS J. HILL.....

Appointed by the Board of Aldermen in January or February. Ord., Chap. 21, Sect. 1.

WEIGHERS OF COAL.

EDWARD CAWLEY.	FRANK J. PARKER.
JAMES A. CAWLEY.	THOMAS F. MURPHY.
JAMES F. CHOATE.	DANIEL HART, JR.
PATRICK COURTNEY.	C. B. KITCHEN.
EDWARD F. CONNORS.	HARRY L. STANLEY.
DENNIS E. CONNORS.	EDWARD E. DREWETT.
ROBERT E. CROWLEY.	GEORGE W. FARNHAM.
JOHN J. COSTELLO.	HENRY K. GATES.
DANIEL W. HORNE.	CHARLES B. RUSHWORTH.
FRED HORNE.	DANIEL T. SULLIVAN.
ANNIE ENGLAND.	HERBERT R. WHITE.
WILLIAM H. HARRIGAN.	WILLIS J. HILL.
GARDNER W. KING.	E. A. WILSON.
WILLIAM E. LIVINGSTON.	MATTHEW RILEY.
FRANK H. PARKER.	

Appointed by Board of Aldermen in January or February. Ord., Chap. 37, Sect. 2.

JANITOR OF HUNTINGTON AND JACKON HALLS.

PIERRE A. BROUSSEAU.

Appointed by the Mayor.

SCHOOL COMMITTEE, 1894.

JOHN J. PICKMAN..... *Chairman.*
 _____ *Vice-Chairman.*
 ARTHUR K. WHITCOMB..... *Secretary*

JOHN J. PICKMAN, Mayor..... } *Ex-*
 THOMAS J. SPARKS, President of the Common Council, } *Officiis*
 59 Elm Street.

Ward 1—PATRICK KEYES, JR.....Term expires 1894
 511 Market Street. .
 THOMAS J. MULLIGAN..... “ “ 1895
 Sun Office.

Ward 2—WILLIAM H. LATHROP..... “ “ 1894
 21 First Street.
 WILLIAM D. BROWN..... “ “ 1895
 2 P. O. Block.

Ward 3—EDWARD GALLAGHER..... “ “ 1894
 Sun Office.
 GEORGE M. HARRIGAN. “ “ 1895
 Office of Lowell Trust Company.

Ward 4—RANSOM A. GREENE..... “ “ 1894
 352 Walker Street.
 FRED WOODIES..... “ “ 1895
 Office of Lowell Machine Shop.

Ward 5—ANDREW G. SWAPP	Term expires 1894
307 Pawtucket Street.	
WALTER COBURN	“ “ 1895
19 Congress Street.	
Ward 6—JOHN H. McNABB	“ “ 1894
167 Church Street.	
THOMAS P. BOULGER	“ “ 1895
115 Central Street.	

STANDING COMMITTEES.

- ON ACCOUNTS—The Mayor, Messrs. Harrigan, Woodies, Boulger, Swapp.
- ON SCHOOL-HOUSES AND HYGIENE—Messrs. Boulger, Gallagher, Lathrop, Mulligan, McNabb.
- ON TEACHERS AND TRAINING SCHOOL—Messrs. Swapp, Greene, Gallagher, Coburn, Boulger.
- ON REPORTS AND PRINTING—Messrs. Gallagher, Greene, Mulligan, Brown, McNabb.
- ON BOOKS AND SUPPLIES—Messrs. Harrigan, Coburn, Boulger, Woodies, McNabb, Lathrop.
- ON SALARIES—The Mayor, Messrs. Brown, Mulligan, Coburn, Greene.
- ON PENMANSHIP AND DRAWING—Messrs. Woodies, Harrigan, Brown, Mulligan, McNabb.
- ON MUSIC—Messrs. Keyes, Greene, Harrigan, Woodies, Boulger.
- ON EVENING SCHOOLS—Messrs. Greene, Swapp, Keyes, Brown, Harrigan, McNabb.
- ON RULES AND REGULATIONS—Messrs. Mulligan, Swapp, Boulger, Brown, Lathrop.
- ON MILITARY INSTRUCTION—Messrs. Lathrop, McNabb, Brown, Boulger, Coburn.
- ON PRIVATE SCHOOLS—The Mayor, Messrs. Swapp, Brown, Harrigan, Boulger.
- ON SEWING—Messrs. Coburn, Keyes, Harrigan, McNabb, Woodies.
- ON MANUAL TRAINING—Messrs. Gallagher, Swapp, Keyes, Lathrop, Mulligan.

ASSIGNMENT OF SCHOOLS.

THE MAYOR—Reform School.

MR. SPARKS—Reform, Middlesex Village, Agawam Street.

MR. KEYES—High, Green, Morrill.

MR. MULLIGAN—High, Reform, Worthen Street, Cheever Street.

MR. LATHROP—High, Varnum, Fourth Street.

MR. BROWN—Kirk Street, West Sixth Street, Tenth Street,
Lakeview Avenue.

MR. GALLAGHER—London Street, Weed Street, Cottage Street,
Chapel Street.

MR. HARRIGAN—High, Butler, London Street.

MR. GREENE—High, Edson, Eliot, Dover Street, Powell Street.

MR. WOODIES—Highland, Franklin, Howard Street, Grand Street.

MR. SWAPP—High, Bartlett, School Street, Cabot Street.

MR. COBURN—High, Pawtucket, Mammoth Road, Cross Street,
Plain Street, Varnum Avenue.

MR. McNABB—High, Charles Street, Central Street, Ames Street,
Carter Street.

MR. BOULGER—Moody, Pond Street, High Street, Fayette Street,
Sycamore Street.

HIGH SCHOOL COMMITTEE—Messrs. Coburn, Keyes, Mulligan,
Lathrop, Harrigan, Greene, Swapp, McNabb.

SUPERINTENDENT OF PUBLIC SCHOOLS.

A. K. WHITCOMB.....Office in the City Hall

OFFICE HOURS—One hour after the forenoon session of the Schools, and from 2 to 3
o'clock on Saturday afternoon.

SUPERVISOR OF EVENING SCHOOLS.

JOHN A. SMITH.

TRUANT COMMISSIONESS.

BICKFORD LANG.

JOHN F. WILLIAMS.

JAMES KELLY.

Office in City Hall.

POPULATION OF THE CITY OF LOWELL.

Year.	Population.	Year.	Population.	Year.	Population.	Year.	Population.
1828	3,532	1837	18,010	1855	37,554	1875	49,688
1830	6,477	1840	20,981	1860	36,827	1880	59,485
1832	10,254	1844	25,163	1865	30,990	1885	64,107
1833	12,963	1846	29,127	1866	36,878	1890	77,696
1836	17,633	1850	33,383	1870	40,928	.....	.....

POPULATION, LEGAL VOTERS, ETC., BY WARDS.

Wards.	Popula- tion, 1890.	Register'd Voters, Dec., 1892.	Pre- cincts.	Register'd Voters. Dec., 1893.			Vote for Mayor, '93	
				Males.	Females.	Total.	Pickman.	Courtney.
1.....	11,398	Males	1.....	533	137			
		1,713	2.....	560	47			
		Females	3.....	603	71	1,951	459	1,001
2.....	13,189	33						
		Males	1.....	348	59			
		2,256	2.....	824	135			
3.....	14,298	Females	3.....	1171	113	2,650	1,113	896
		36						
		Males	1.....	793	95			
4.....	12,860	2,771	2.....	1117	79			
		Females	3.....	1042	119	3,245	993	1,560
		4						
5.....	15,967	Males	1.....	671	47			
		2,727	2.....	930	51			
		Females	3.....	1357	58	3,114	1,905	573
6.....	9,984	15						
		Males	1.....	712	115			
		2,234	2.....	764	105			
Total..	77,696	Females	3.....	890	255	2,841	1,043	953
		148						
		Males	1.....	775	164			
Total..	77,696	2,242	2.....	665	185			
		Females	3.....	875	306	2,943	874	1,100
		180						
Total..	77,696	*14,373	.....	14,603	2,141	16,744	6,387	6,083

* Males, 13,956 ; Females, 417.

CATALOGUE
OF THE
GOVERNMENT OF THE CITY OF LOWELL,
IN
CHRONOLOGICAL ORDER OF SERVICE,

From its Institution, 1836, to 1893, inclusive,

1836.**Mayor:****ELISHA BARTLETT.****Aldermen:**

William Austin, resigned Oct. 10,
Joseph Tapley, elected November,
Seth Ames,
Aaron Mansur,

Benjamin Walker,
Oliver M. Whipple,
Alexander Wright.

SAMUEL A. COBURN, *City Clerk.*

Common Council:

John Clark, *President*,
Henry J. Baxter,
Jonathan Bowers,
George Brownell,
James Cook,
David Dana,
Erastus Douglass,
Josiah B. French,
Cyril French,
Samuel Garland,
Horatio W. Hastings,
Horace Howard,

Stephen Mansur,
John Mixer,
Thomas Nesmith,
David Nourse,
Thomas Ordway,
James Russell,
John A. Savels,
Sidney Spalding,
Weld Spalding,
Jonathan Tyler,
Tappan Wentworth,
William Wyman.

GEORGE WOODWARD, *Clerk*, died. ALBERT LOCKE, elected.

1837.**Mayor:****ELISHA BARTLETT, †'36.****Aldermen:**

Seth Ames, *'36,
John Aiken,
Seth Chellis,

Joseph G. Kittredge,
Joshua Swan,
Alexander Wright, *'36.

SAMUEL A. COBURN, *City Clerk.*

Common Council:**WARD 1.**

Joshua Abbott,
James K. Fellows,
Jesse Phelps,
Walter Wright.

WARD 2.

William Fiske,
Thomas Nesmith, '36.
Josiah Osgood,
Joseph Tyler.

WARD 3.

Joseph M. Dodge,
Elisha Huntington, *President*,
William North,
Joseph Tapley.

WARD 4.

William Baker,
Elijah M. Read,
Charles H. Wilder,
William W. Wyman.

WARD 5.

George Brownell, '36,
Osgood Dane,
James Russell, '36.
Tappan Wentworth, '36.

WARD 6.

Andrew Bird,
Benjamin H. Gage,
Jona. T. P. Hunt,
Abram Tilton.

ALBERT LOCKE, *Clerk.*

The figures without other marks indicate membership of the Common Council those years.
† Mayor that year. * Alderman that year. † President of Common Council that year.

1838.

Mayor:

LUTHER LAWRENCE.

Aldermen:

Benjamin F. French,
Charles L. Tilden,
Oliver M. Whipple, * '36,

George H. Carleton,
George Brownell, '36, '37,
Seth Chellis, * '37.

THOMAS ORDWAY, *City Clerk.*

Common Council:**WARD 1.**

Jesse Phelps, '37,
Walter Wright, '37,
Eliphalet Brown,
Perez Fuller.

WARD 2.

William Fiske, '37.
Aaron H. Sherman,
William Upham,
Henry J. Baxter, '36.

WARD 3.

Thomas Hopkinson,
Elisha Huntington, † '37, *President*,
Horace Howard, '36,
John Mixer, '36.

WARD 4.

David Dana, '36,
Perley Hale,
Benjamin Walker, * '36,
William Baker, '37.

WARD 5.

Garret J. Bradt,
Benjamin Wilde,
Erastus Douglass, '36,
Rufus Paul.

WARD 6.

Eli Cooper,
Thomas L. Randlett,
James L. Foot,
Calvin Goodspeed.

ALBERT LOCKE, *Clerk.*

1839.

Mayor:

LUTHER LAWRENCE. — [Died in April.]

ELISHA HUNTINGTON, † '37, † '38.

Aldermen:

Benjamin F. French, * '38,
John O. Green,
Charles L. Tilden, * '38,

George H. Carleton, * '38,
John Clark, † '36,
Oliver M. Whipple, * '36, * '38.

THOMAS ORDWAY, *City Clerk.*

Common Council:**WARD 1.**

Walter Wright, '37, '38,
Harlin Pillsbury,
Eliphalet Brown, '38,
Forrest Eaton.

WARD 2.

Jonathan Tyler, '36,
John Nesmith,
Henry J. Baxter, '36, '38,
Jefferson Bancroft.

WARD 3.

Thomas Hopkinson, '38, *President*,
Jacob Robbins,
John G. Locke.

WARD 4.

Benjamin Walker, * '36, '38,
Samuel Horn,
Stephen Carleton,
Stephen Mansur, '36.

WARD 5.

Tappan Wentworth, '36, '37,
Lewis McIntire, died Feb., '40,
Benjamin Wilde, '38,
Garret J. Bradt, '38.

WARD 6.

Thomas L. Randlett, '38,
Joseph S. Holt,
John L. Fitts,
Daniel Knapp.

ALBERT LOCKE, *Clerk.*

1840.**Mayor:**

ELISHA HUNTINGTON, †'37, †'38, †'39.

Aldermen:Jonathan Tyler, '36, '39,
John R. Adams,
Joseph Bedlow,Harlin Pillsbury, '39,
Seth Ames, *'36, *'37,
Stephen Mansur, '36, '39.THOMAS ORDWAY, *City Clerk.***Common Council:****WARD 1.**Forrest Eaton, '39,
Sylvanus Adams,
Henry Patch,
R. M. Hutchinson.**WARD 2.**Jefferson Bancroft, '39,
John Nesmith, '39,
Joseph G. Kittredge, *'37,
Josiah Osgood, '37.**WARD 3.**Pelham W. Warren, *President*,
Abner W. Buttrick,
Asa Hall,
Samuel Burbank.**WARD 4.**Ferdinand Rodliff,
Ethan Burnap,
Edward F. Watson,
B. Walker, *'36, '38, '39, died Sept.**WARD 5.**Tappan Wentworth, '36, '37, '39,
Samuel W. Brown,
John J. Crane,
George Dane.**WARD 6.**Daniel Knapp, '39,
George L. Fitts, '39,
Joseph Battles,
Joshua Converse.ALBERT LOCKE, *Clerk*, died October. JOHN G. LOCKE, elected October.**1841.****Mayor:**

ELISHA HUNTINGTON, †'37, †'38, †'39, †'40.

Aldermen:Seth Chellis, *'37, '38,
Jefferson Bancroft, '39, '40,
Cyril French, '36,George H. Carleton, *'38, *'39,
John R. Adams, *'40.
John Aiken, *'37.THOMAS ORDWAY, *City Clerk.***Common Council:****WARD 1.**Henry Patch, '40,
George Bragdon,
John W. Holland,
Arnold Welch.**WARD 2.**William Fiske, '37, '38.
Erasmus D. Leavitt,
Jonathan White,
Nathaniel Wilson.**WARD 3.**Samuel Burbank, '40,
Nathaniel Critchett,
Royal Southwick,
Edward Winslow.**WARD 4.**Ethan Burnap, '40,
William Livingston,
John Morrison,
Edward F. Watson, '40.**WARD 5.**Tappan Wentworth, '36, '37, '39,
'40, *President*,
Samuel W. Brown, '40,
John J. Crane, '40,
Phineas Whiting.**WARD 6.**Francis H. Bowers,
Isaac H. Cooper,
William Potter,
John Smith.JOHN G. LOCKE, *Clerk.*

1842.

Mayor:

NATHANIEL WRIGHT.

Aldermen:

Nathaniel Thurston,
 Jefferson Bancroft, '39, '40, '41,
 Cyril French, '36, *'41.

William Livingston, '41,
 Ithamar A. Beard,
 John W. Graves.

THOMAS ORDWAY, *City Clerk*.

Common Council:

WARD 1.

Jeremiah P. Jewett,
 John Hadley,
 James Townsend,
 Edward J. Payne.

WARD 2.

John Nesmith, '39, '40,
 Erasmus D. Leavitt, '41,
 Joseph W. Mansur, *President*,
 James Hopkins.

WARD 3.

Nathaniel Critchett, '41,
 Ira Spalding,
 John Mead,
 Asa W. Willoughby.

WARD 4.

John Morrison, '41,
 William Carlton,
 Oliver March,
 Josiah B. French, '36.

WARD 5.

James Patterson,
 Isaac Appleton,
 Josiah Seavey,
 Roswell Douglass.

WARD 6.

James Russell, '36, '37,
 Jonathan Kendall,
 Varnum A. Shed,
 Isaac N. Fitts.

JOHN G. LOCKE, *Clerk*.

1843.

Mayor:

NATHANIEL WRIGHT, †'42.

Aldermen:

Harlin Pillsbury, '39, *'40, res'd June,
 Henry C. Johnson,
 Cyril French, '36, *'41, *'42,

S. Spalding, '36, resigned in June.
 Joseph Griffin.
 Charles L. Tilden, *'38, '39.

THOMAS ORDWAY, *City Clerk*.

Common Council:

WARD 1.

Daniel Bixby,
 Edward J. Payne, '42,
 Hugh Cummiskey,
 Walter Wright, '37, '38, '39.

WARD 2.

Henry J. Baxter, '36, '38, '39,
 John P. Simonds,
 Pliny Lawton,
 Ben Osgood.

WARD 3.

John Mead, '42,
 Willard Brown,
 Ira Spalding, '42,
 Benjamin J. Gerrish.

WARD 4.

Otis Allen,
 Alfred Gilman,
 Oliver March, '42, *President*,
 William Carlton, '42.

WARD 5.

James Patterson, '42,
 David Bradt,
 John L. Tripp,
 Benjamin F. Holden,

WARD 6.

John B. McAlvin,
 Cyrus Battles,
 Sewall G. Mack,
 Charles F. Mitchell.

JOHN G. LOCKE, *Clerk*.

1844.**Mayor:**

ELISHA HUNTINGTON, †'37, †'38, †'39, †'40, †'41.

Aldermen:Henry Smith,
Selwin Bancroft,
O. M. Whipple, *'36, *'38, *'39,Edward F. Watson, '40, '41,
Joseph Griffin, *'43,
John Wright.THOMAS ORDWAY, *City Clerk.***Common Council:****WARD 1.**Forrest Eaton, '39, '40,
Gilman N. Nichols,
Hugh Cumiskey, '43,
David Healey.**WARD 2.**John P. Simonds, '43,
Ben Osgood, '43,
Amos Merriam,
John Clark, †'36, *'39, *President.***WARD 3.**Charles B. Coburn,
George Choate,
Isaac Scripture,
William C. Gray.**WARD 4.**Asa Wetherbee,
Abner W. Buttrick, '40,
Horatio G. F. Corliss,
Charles H. Wilder, '37.**WARD 5.**John L. Tripp, '43,
David Bradt, '43,
John Wright,
Nathaniel Wright, Jr.**WARD 6.**Sewall G. Mack, '43,
James Russell, '36, '37, '42,
Jonathan Kendall, '42,
Gilman Gale.JOHN G. LOCKE, *Clerk.***1845.****Mayor:**

ELISHA HUNTINGTON, †'37, †'38, †'39, †'40, †'41, †'44.

Aldermen:Henry Smith, *'44,
Selwin Bancroft, *'44,
O. M. Whipple, *'36, *'38, *'39, *'44,Edward F. Watson, '40, '43, *'44,
John C. Dalton,
Daniel Knapp, '39.THOMAS ORDWAY, *City Clerk.***Common Council:****WARD 1.**Gilman N. Nichols, '39,
Danforth P. Brigham,
Jonathan Adams,
Willard C. Welch.**WARD 2.**John P. Simonds, '43, '44,
Daniel Balch,
William Brown,
Daniel S. Richardson, *President.***WARD 3.**Isaac Scripture, '44,
William C. Gray, '44,
George Choate, '44,
Hapgood Wright.**WARD 4.**Abner W. Buttrick, '40, '44,
Asa Wetherbee, '44,
Charles H. Wilder, '37, '44,
Josiah Sawtell.**WARD 5.**Nathaniel Wright, Jr., '44,
Amos Hyde,
Edward Sherman,
James Fenno.**WARD 6.**Gilman Gale, '44,
John B. McAlvin, '43,
Samuel Fay, Jr.,
Lorenzo P. Wright.JOHN G. LOCKE, *Clerk.*

1846.**Mayor:****JEFFERSON BANCROFT**, '39, '40, *'41, *'42.**Aldermen:**

Henry Smith, *'44, *'45,
 Selwin Bancroft, '44, *'45,
 William C. Gray, '44, '45,
 Joseph Butterfield,

John C. Dalton, '45,
 D. Knapp, '39, *'45, resigned July,
 Isaac Cooper, '41, elected August.

THOMAS ORDWAY, *City Clerk*.**Common Council:****WARD 1.**

Gilman N. Nichols, '39, '45,
 Danforth P. Brigham, '45,
 Willard C. Welch, '45,
 Thomas S. Hutchinson.

WARD 2.

Daniel Balch, '45,
 William Brown, '45,
 Daniel S. Richardson, ‡'45, *President*,
 Zadock Rogers.

WARD 3.

Hapgood Wright, '45,
 Isaac Farrington,
 Joel Powers,
 Franklin Mead.

WARD 4.

Josiah Sawtell, '45,
 Solon Stevens,
 David J. Moody,
 William Fletcher.

WARD 5.

Amos Hyde, '45,
 Horatio G. F. Corliss, '44,
 Jonathan Bowers, '36,
 Charles M. Short.

WARD 6.

Lorenzo P. Wright, '45,
 John L. Fitts, '39, '40,
 Lewis Packard,
 Columbus J. Hubbard.

JOHN G. LOCKE, *Clerk*.**1847.****Mayor:****JEFFERSON BANCROFT**, '39, '40, *'41, *'42, †'46.**Aldermen:**

George Bragdon,
 Joseph Butterfield, *'46,
 Linus Child,
 James Fenno, '45,

Elisha Huntington, ‡'37, ‡'38,
 †'39, †'40, †'41, †'44, †'45,
 Sewall G. Mack, '43, '44,
 Stephen Mansur, '36, '39, *'40,
 Josiah Sawtell, '45, '46.

THOMAS ORDWAY, *City Clerk*.**Common Council:****WARD 1.**

William Conihe,
 James C. Crombie,
 David S. Bachelder,
 Jesse Huse.

WARD 2.

Samuel W. Brown, '40, '41,
 Hannibal Powers,
 William Newman,
 Otis L. Allen.

WARD 3.

Joel Powers, '46,
 Franklin Mead, '46,
 Isaac Farrington, '46,
 Samuel G. Davis.

WARD 4.

Joel Adams, *President*,
 Horatio Fletcher,
 Solon Stevens, '46,
 Stephen A. Coburn.

WARD 5.

Ignatius Tyler,
 Edward C. Johnson,
 Elihu Gates,
 Charles M. Short, '46.

WARD 6.

Thomas Wentworth,
 Isaac N. Parker,
 John R. Southwick,
 Isaiah Morse.

JOHN G. LOCKE, *Clerk*.

1848.**Mayor:**

JEFFERSON BANCROFT, '39, '40, * '41, * '42, † '46, † '47.

Aldermen:

David Dana, '36, '38.
 Erastus Douglass, '36, '38.
 Jacob Graves, resigned in June,
 William Newman, '47,

Gilman N. Nichols, '39, '45, '46,
 Daniel S. Richardson, † '45, † '46,
 Josiah Sawtell, '45, '46, * '47,
 O. M. Whipple, * '36, * '38, * '39, * '45.

THOMAS ORDWAY, *City Clerk.***Common Council:****WARD 1.**

William Conihe, '47,
 James C. Crombie, '47,
 Jesse Huse, '47,
 Gerry Wilson.

WARD 2.

Otis L. Allen, '47,
 William H. Flagg,
 John Nesmith, '39, '40, '42,
 Hannibal Powers, '47.

WARD 3.

Alfred Gilman, '43,
 Thomas Hopkinson, '38, '39, *President*,
 Ransom Reed,
 Nathaniel Critchett, '41, '42.

WARD 4.

John Avery,
 Otis Allen, '43,
 Abiel Rolfe,
 Horace Howard, '36, '38.

WARD 5.

Ignatius Tyler, '47,
 Elihu Gates, '47,
 Edward C. Johnson, '47,
 Charles M. Short, '46, '47.

WARD 6.

Thomas Wentworth, '47,
 Isaac N. Parker, '47,
 Jeremiah M. Currier,
 Horace Parmenter.

JOHN G. LOCKE, *Clerk.***1849.****Mayor:**

JOSIAH B. FRENCH, '36, '42.

Aldermen:

James B. Francis,
 Cyril French, '36, * '41, * '42, * '43,
 James H. B. Ayer,
 Daniel D. Crombie,

Daniel Carter,
 George Brownell, '36, '37, * '38,
 Artemas L. Brooks,
 Joseph Bedlow, * '40.

THOMAS ORDWAY, *City Clerk.***Common Council:****WARD 1.**

Jesse Huse, '47, '48, resigned Feb.,
 William A. Richardson, elected Mar.,
 Gerry Wilson, '48,
 John W. Smith,
 Alfred S. Saunders.

WARD 2.

William H. Flagg, '48,
 Ivers Taylor,
 Isaac S. Morse, resigned,
 Ambrose Lawrence.

WARD 3.

Alfred Gilman, '43, '48,
 Elisha Davis,
 James Dinsmoor,
 Andrew C. Wheelock.

WARD 4.

Nathaniel B. Favor,
 Caleb Crosby,
 Ezekiel Wright,
 Waldo A. Fisher.

WARD 5.

Maynard Bragg,
 Joshua Decatur,
 Abram T. Melvin,
 W. W. Morse.

WARD 6.

William Lamson, Jr.,
 Jeremiah M. Currier, '48,
 George S. Wright,
 John Aiken, * '37, * '41, *President.*

GEORGE A. BUTTERFIELD, *Clerk.*

1850.**Mayor:**

JOSIAH B. FRENCH, '36, '42, †'49.

Aldermen:

James H. B. Ayer, *'49,
Joseph Bedlow, *'40, *'49,
Daniel D. Crombie, *'49,
James B. Francis, *'49,

Philip Hardy,
John Mixer, '36, '38,
Josiah G. Peabody,
James Townsend, '42.

THOMAS ORDWAY, *City Clerk*.**Common Council:****WARD 1.**

John W. Smith, '49,
Daniel R. Kimball,
James Watson,
Jonathan Smothers.

WARD 2.

Ivers Taylor, '49, *President*,
George Gardner,
Samuel Lawrence, 2d,
Samuel J. Varney.

WARD 3.

Jonathan Page,
John Tripp,
Fordyce Coburn,
Joshua Merrill.

GEO. A. BUTTERFIELD, *Clerk*, res'd May.**WARD 4.**

Abner W. Buttrick, '40, '44, '45,
Caleb Crosby, '49,
Benjamin Goddard,
Nathaniel B. Favor, '49.

WARD 5.

George P. Elliot,
William Fiske, '37, '38, '41,
George W. Worthen,
Maynard Bragg, '49.

WARD 6.

Albert Mallard,
Stephen P. Sargent,
George S. Wright, '49,
Wm. Lamson, Jr., '49, res'd May.

WM. LAMSON, JR., elected May.

1851.**Mayor:**

JAMES H. B. AYER, *'49, *'50.

Aldermen:

William Fiske, '37, '38, '41, '50,
Ambrose Lawrence, '49,
James Townsend, '42, *'50,
Philip Hardy, *'50,

William North, '37,
Abiel Rolfe, '48,
Lucius A. Cutler,
Joshua Converse, '40.

THOMAS ORDWAY, *City Clerk*.**Common Council:****WARD 1.**

James Watson, '50,
Jonathan Smothers, '50,
Charles B. Coburn, '44,
Stephen Moar.

WARD 2.

Linus Child, *'47,
George Gardner, '50, *President*,
Samuel J. Varney, '50,
Zachariah B. Caverly.

WARD 3.

Fordyce Coburn, '50,
William Twichell,
Darius C. Brown,
Benjamin C. Sargeant.

WARD 4.

Benjamin Goddard, '50,
Richard Dennis,
Holland Streeter,
Solomon D. Emerson.

WARD 5.

George P. Elliot, '50,
Edward Fifield,
John N. Ford,
Theodore H. Sweetser.

WARD 6.

George W. Worthen, '50,
George W. Jones, died Sept.,
Stephen P. Sargent, '50,
Albert Mallard, '50.

WILLIAM LAMSON, JR., *Clerk*.

1852.**Mayor:**

ELISHA HUNTINGTON, †'37, †'38, †'39, †'40, †'41, †'44, †'45, *'47.

Aldermen:Joseph Bedlow, *'40, *'49, *'50,
Joseph M. Bullens,
Samuel Burbank, '40, '41,
Joseph B. V. Coburn,Wm. Fiske, '37, '38, '41, '50, *'51,
William North, '37, *'51,
Alpha Stevens,
Samuel J. Varney, '50, '51.THOMAS ORDWAY, *City Clerk.***Common Council:****WARD 1.**Rufus Rogers,
John C. Smith,
Jeremiah Clark,
Paul Hill.**WARD 2.**Paul Perkins,
Milton Bonney,
William Hovey,
Zachariah B. Caverly, '51.**WARD 3.**Darius C. Brown, '51,
William Twichell, '51,
Benjamin C. Sargeant, '51, *President*,
Michael B. Caswell.**WARD 4.**Holland Streeter, '51,
Elbridge Livingston,
Abram French,
Willard Minot.**WARD 5.**Edward Fifield, '51,
Phineas Whiting, '41,
George W. Patterson,
Jonathan Kendall, '42, '44.**WARD 6.**Leonard W. Jaquith,
Seth Pooler,
Caleb G. Weaver,
William C. Parker.WILLIAM LAMSON, JR., *Clerk.***1853.****Mayor:**

SEWALL G. MACK, '43, '44, *'47.

Aldermen:Elisha Huntington, †'37, †'38, †'39,
†'40, †'41, †'44, †'45, *'47, †'52,
Samuel K. Hutchinson,
Stephen Mansur, '36, '39, *'40, *'47,
Joseph B. V. Coburn, *'52,Ira Spalding, '42, '43,
Joseph M. Bullens, *'52,
Alpha Stevens, *'52,
Joseph White.THOMAS ORDWAY, *City Clerk.***Common Council:****WARD 1.**Rufus Rogers, '52,
John C. Smith, '52,
Marcus A. Thomas,
James Cook, '36.**WARD 2.**Paul Perkins, '52,
Milton Bonney, '52,
George G. Bumpus,
George W. Stanley.**WARD 3.**Michael B. Caswell, '52,
Calvin Philbrick,
Leonard Brown,
Henry H. Wilder.**WARD 4.**Abram French, '52,
Henry C. Howe,
Joseph S. Grush,
Samuel K. Pickering.**WARD 5.**George W. Patterson, '52,
Wm. A. Richardson, '49, *Presid't*,
Patrick Conlan,
Jonathan Bowers.**WARD 6.**Caleb G. Weaver, '52,
William C. Parker, '52,
George F. Woods,
C. F. Blanchard.WILLIAM LAMSON, JR., *Clerk.*

1854.**Mayor:**

SEWALL G. MACK, '43, '44, *'47, †'53.

Aldermen:

Eliza Huntington, †'37, †'38, †'39, †'40,
 †'41, †'44, †'45, *'47, †'52, *'53,
 J. B. V. Coburn, *'52, *'53, res'd Jan.,
 Samuel K. Hutchinson, *'53,
 Ira Spalding, '42, '43, *'53.

Joseph White, *'53,
 Horatio Fletcher, '47,
 C. F. Blanchard, '53,
 Charles Sperry.

WILLIAM LAMSON, JR., *City Clerk.***Common Council:****WARD 1.**

John C. Smith, '52, '53,
 Paul Hill, '52,
 Marcus A. Thomas, '53,
 Thomas Lennor.

WARD 2.

George W. Stanley, '53,
 William H. Gage,
 Amos A. Taylor,
 William H. Bradley.

WARD 3.

Calvin Philbrick, '53,
 Leonard Brown, '53, declined,
 Darius C. Brown, '51, '52, elected,
 Henry H. Wilder, '53,
 Peter O. C. Frawley.

WARD 4.

Henry C. Howe, '53,
 Joseph S. Grush, '53,
 Samuel K. Pickering, '53,
 Hubbard Wilson.

WARD 5.

William A. Richardson, '49, †'53,
President,
 Jonathan Bowers, '53,
 Patrick Conlan, '53,
 John C. Woodward.

WARD 6.

George F. Woods, '53,
 Charles S. Eastman,
 Levi H. Straw,
 William P. Webster.

LEONARD BROWN, *Clerk.***1855.****Mayor:**

AMBROSE LAWRENCE, '49, '51.

Aldermen:

Wm. Fiske, '37, '38, '41, '50, *'51, *'52,
 Artemas L. Brooks, *'49,
 Daniel Woodward,
 Lorenzo G. Howe,

Andrew T. Nute,
 Abner Frost,
 William S. Johnston,
 Shadrach R. Brackett.

WILLIAM LAMSON, JR., *City Clerk.***Common Council:****WARD 1.**

Maynard Bragg, '49, '50,
 Aaron B. Young,
 Augustus B. Roby,
 George L. Harris.

WARD 2.

William G. Morse,
 George K. Paul,
 Mark H. Cook,
 Joseph A. Patten.

WARD 3.

Alfred Gilman, '43, '48, '49, *President,*
 Daniel Hurd,
 Theodore Warren,
 Stephen K. Fielding.

WARD 4.

Joshua W. Daniels,
 John Bennett,
 Alanson Folsom,
 Francis H. Nourse.

WARD 5.

John C. Woodward, '54,
 Stephen Bartlett,
 Jonathan Johnson,
 Oliver P. Rand.

WARD 6.

Levi H. Straw, '54,
 William T. Whitten,
 Lucien P. Stacy,
 James M. Moore.

LEONARD BROWN, *Clerk.*

1856.**Mayor:**

ELISHA HUNTINGTON, †'37, †'38, †'39, †'40, †'41, †'44,
†'45, *'47, †'52, *'53, *'54.

Aldermen:

Edward Tuck,
Samuel Burbank, '40, '41, *'52,
Charles B. Coburn, '44,
William P. Webster, '54,
Hapgood Wright, '45, '46,

Charles H. Wilder, '37, '44, '45,
O. J. Conant, resigned in March,
James H. Rand,
Jonathan Johnson, elected in
June.

WILLIAM LAMSON, JR., *City Clerk.*

Common Council:**WARD 1.**

Enos O. Kingsley,
Abiel Pevey,
David M. Collins,
Marshall E. Thompson.

WARD 2.

Isaac Hinckley,
Seth Gage,
Peter Flanders, Jr.,
Leonard F. Jewell.

WARD 3.

David Rogers,
Benj. C. Sargeant, '51, †'52, *President*,
Henry H. Carroll,
Peter Powers.

WARD 4.

Francis H. Nourse, '55,
Alden B. Buttrick,
Holland Streeter, '51, '52,
James Sands.

WARD 5.

Frederick Holton,
Isaac Place,
Albert Wheeler,
Abiel Rolfe, '48, *'51.

WARD 6.

Eliphalet Hills,
Jonathan P. Folsom,
James K. Fellows, '37,
John K. Chase.

JAMES J. MAGUIRE, *Clerk.*

1857.**Mayor:**

STEPHEN MANSUR, '36, '39, *'40, *'47, *'53.

Aldermen:

Andrew T. Nute, *'55,
John C. Woodward, '54, '55,
Jonathan Smothers, '50, '51,
Samuel W. Stickney,

John B. Tuttle,
Francis H. Nourse, '55, '56,
Jonathan Johnson, '55, *'56,
John Nesmith, '39, '40, '42, '48.

WILLIAM LAMSON, JR., *City Clerk.*

Common Council:**WARD 1.**

Abiel Pevey,
Stephen T. Stanley,
Charles A. Welch,
George F. Scribner.

WARD 2.

William G. Morse, '55,
William D. Vinall,
Temple Tebbetts,
James M. Howe.

WARD 3.

Benjamin C. Sargeant, '51, †'52, †'56,
David Rogers, '56,
Henry H. Carroll, '56,
Nathan Allen.

WARD 4.

Caleb Crosby, '49, '50,
John F. Howe,
John C. Jepson,
Alanson Nichols.

WARD 5.

Frederick Holton, '56, *President*,
William H. Wiggin,
William Goodale,
Charles Hubbard.

WARD 6.

Erastus Boyden,
Jonathan Kimball,
Robert J. Garrett,
William Nichols.

HENRY A. LORD, *Clerk.*

1858.**Mayor:**

ELISHA HUNTINGTON, †'37, †'38, †'39, †'40, †'41, †'44,
†'45, *'47, †'52, *'53, *'54, †'56.

Aldermen:

Sewall G. Mack, '43, '44, *'47, †'53, †'54,
Samuel W. Stickney, *'57,
Abiel Pevey, '56, '57,
Jeremiah P. Jewett, '42,

Joseph M. Dodge, '37,
Harvey Silver,
Albert Wheeler, '56,
Edwin A. Alger.

JOHN H. McALVIN, *City Clerk.*

Common Council:**WARD 1.**

Charles Wilkins,
John M. Maynard,
John E. Webb,
William Barnard.

WARD 2.

Edward Tuck, *'56,
William P. Webster, '54, *'56,
Andrew Blood,
William F. Salmon.

WARD 3.

Benjamin C. Sargeant, '51, †'52, †'56,
'57, *President*,
Hanover Dickey,
Joseph A. Brabrook,
Benjamin S. Butterworth.

WARD 4.

Enoch P. Young,
Zephaniah Goward,
Jesse Blake,
John F. Howe, '57.

WARD 5.

Willard Dudley,
Samuel T. Manahan,
Isaac Page,
John Avery, 2d.

WARD 6.

William Nichols, '57,
Alpha B. Farr, resigned in Jan.,
Leonard Brown, '53, '54, elec'd Feb.,
Erastus Boyden, '57,
James H. Rand, *'56, resign'd May,
Eben'r Burgess, elected in June.

GEORGE GARDNER, *Clerk.*

1859.**Mayor:**

JAMES COOK, '36, '53.

Aldermen:

Lorenzo G. Howe, *'55,
Samuel J. Varney, '50, '51, *'52,
Paul Hill, '52, '54,
Ambrose Lawrence, '49, '51, †'55, re-
signed in April,
Darius C. Brown, '51, '52,

John F. Howe, '57, '58,
Joshua Converse, '40, *'51, re'd Apr.,
J. P. Folsom, '56, resign'd in April,
Edward Tuck, *'56, '58, elec'd May,
Sam'l T. Manahan, '58, elec'd May,
Jonathan Ladd, elected in May.

JOHN H. McALVIN, *City Clerk.*

Common Council:**WARD 1.**

John E. Webb, '58,
Charles Wilkins, '58,
William Barnard, '58,
William D. Blanchard.

WARD 2.

W. P. Webster, '54, *'56, '58, *President*,
William F. Salmon, '58,
James M. Howe, '57,
David Nichols.

WARD 3.

George Hobson,
Asahel D. Puffer,
John Willoughby,
Benjamin S. Butterworth, '58.

WARD 4.

Caleb Crosby, '49, '50, '57,
Jesse Blake, '58,
George W. Partridge,
George W. Young.

WARD 5.

Horatio G. F. Corliss, '44, '46,
Luther B. Morse,
Josiah G. Peabody, *'50,
William Goodale, '57.

WARD 6.

Charles A. Stott,
Levi Sprague,
Ebenezer Burgess, '58,
Leonard Brown, '53, '54, '58.

GEORGE GARDNER, *Clerk.*

1860.**Mayor:**

BENJAMIN C. SARGEANT, '51, †'52, †'56, '57, †'58.

Aldermen:

Edward F. Watson, '40, '41, *'44, *'45,
 Lorenzo G. Howe, *'55, *'59,
 James Watson, '50, '51,
 William G. Morse, '55, '57,

Henry H. Wilder, '53, '54,
 Abner Frost, *'55,
 Samuel T. Manahan, '58, *'59,
 William S. Gardner.

JOHN H. McALVIN, *City Clerk.***Common Council:****WARD 1.**

Benjamin S. Ireson,
 Enoch Quimby,
 John P. Slocum,
 Amos H. Foster.

WARD 2.

Henry P. Clough,
 Alfred S. Saunders, '49,
 Wm. F. Salmon, '58, '59, *President*,
 Joseph L. Sargent.

WARD 3.

George Hobson, '59,
 Josiah B. Fielding,
 Henry P. Perkins,
 Hocum Hosford.

WARD 4.

George W. Partridge, '59,
 George W. Young, '59,
 Morrill M. Bohonan,
 Caleb Crosby, '49, '50, '57, '59.

WARD 5.

Josiah G. Peabody, *'50, '59,
 Sullivan L. Ward,
 George F. Morey,
 William H. Lamson.

WARD 6.

William Nichols, '57, '58,
 Samuel T. Lancaster,
 Charles A. Stott, '59,
 Foster Nowell.

GEORGE GARDNER, *Clerk.***1861.****Mayor:**

BENJAMIN C. SARGEANT, '51, †'52, †'56, '57, †'58, †'60.

Aldermen:

Samuel T. Manahan, '58, *'59, *'60,
 Jonathan P. Folsom, '56, *'59,
 James Watson, '50, '51, *'60,
 William G. Morse, '55, '57, *'60,
 Hocum Hosford, '60,

Aldis L. Waite,
 David Whitney, declined acceptance,
 Sager Ashworth, elected in May,
 William S. Gardner, *'60.

JOHN H. McALVIN, *City Clerk.***Common Council:****WARD 1.**

Frank E. Jewett,
 M. Gilbert Perkins,
 Jacob Baron,
 William D. Blanchard, '59.

WARD 2.

Alfred S. Saunders, '49, '60,
 Joseph L. Sargent, '60,
 Henry P. Clough, '60,
 Henry S. Orange.

WARD 3.

William L. North, *President*,
 George W. Norris,
 Henry P. Perkins, '60,
 James G. Morrison.

WARD 4.

Joseph Cater,
 Joseph B. Keyes,
 Morrill M. Bohonan, '60,
 Abel M. Ayer.

WARD 5.

Sullivan L. Ward, '60,
 Samuel Beck,
 William H. Parker,
 George F. Morey, '60.

WARD 6.

Samuel T. Lancaster, '60,
 Foster Nowell, '60,
 Elon A. Sanborn,
 George E. Dana.

GEORGE GARDNER, *Clerk.*

1862.**Mayor:****HOCUM HOSFORD**, '60, *'61.**Aldermen:**

Mertoun C. Bryant.
 Edwin A. Alger, *'58,
 James B. Francis, *'49, *'50,
 William A. Burke,

Isaac F. Scripture,
 Aldis L. Waite, *'61,
 Albert Wheeler, '56, *'58,
 Jona. P. Folsom, '56, *'59, *'61.

JOHN H. McALVIN, *City Clerk*.**Common Council:****WARD 1.**

Amos D. Wright,
 Frank E. Jewett, '61,
 Horatio G. Burgess,
 Charles F. Hard.

WARD 2.

Benedict O. Carpenter,
 William T. McNeill,
 Lorenzo G. Howe, *'55, *'58, *'60,
 Henry S. Orange, '61.

WARD 3.

George W. Norris, '61,
 Edmund D. Fletcher,
 Everett W. French,
 John Quinn.

WARD 4.

Joseph B. Keyes, '61,
 George Runels,
 John Pettingell,
 Hubbard Willson, '54.

WARD 5.

Rollin C. Downs,
 Albert Mallard, '50, '51,
 Edward Fifield, '51, '52,
 Cleveland J. Cheney.

WARD 6.

Geo. F. Richardson, *President*,
 Albion J. Dudley,
 Elon A. Sanborn, '61,
 Frederick Frye.

GEORGE GARDNER, *Clerk*.**1863.****Mayor:****HOCUM HOSFORD**, '60, *'61, †'62.**Aldermen:**

James B. Francis, *'49, *'50, *'62,
 Edwin A. Alger, *'58, *'62,
 Abiel Pevey, '56, '57, *'58,
 William A. Burke, *'62,

Isaac F. Scripture, *'62,
 Otis Allen, '43, '48,
 Albert Wheeler, '56, *'58, *'62,
 William Nichols, '57, '58, '60.

JOHN H. McALVIN, *City Clerk*.**Common Council:****WARD 1.**

Charles F. Hard, '62,
 Amos D. Wright, '62,
 John Cosgrove,
 William A. Wright.

WARD 2.

George F. Sawtell,
 Henry S. Orange, '61, '62,
 Hugh McEvoy,
 Nathaniel Stearns.

WARD 3.

Everett W. French, '62,
 Fordyce Coburn, '50, '51,
 Edmund D. Fletcher, '62,
 John Quinn, '62.

WARD 4.

Atwell F. Wright,
 Josiah Gates,
 William Stafford,
 John McCann.

WARD 5.

James C. Ayer,
 Charles W. Saunders,
 Cyrus H. Latham,
 John E. Downs.

WARD 6.

Geo. F. Richardson, †'62, *Pres.*,
 Albion J. Dudley, '62,
 Benedict O. Carpenter, '62,
 Frederick Frye, '62.

GEORGE GARDNER, *Clerk*.

1864.**Mayor:**

HOCUM HOSFORD, '60, * '61, † '62, † '63.

Aldermen:

William S. Southworth,
James B. Francis, * '49, * '50, * '62, * '63,
Dana B. Gove,
William T. McNeill, '62,

George W. Norris, '61, '62,
George Runels, '62,
Cyrus H. Latham, '63,
George F. Richardson, † '62, † '63.

JOHN H. McALVIN, *City Clerk.***Common Council:****WARD 1.**

Alden B. Watson,
Lewis L. Perrin,
Frederick S. Tukey,
John Cosgrove, '63.

WARD 2.

George Ripley, *President*,
Andrew F. Jewett,
Artemas S. Young,
Hoyt W. Hilton.

WARD 3.

Samuel N. Wood,
Charles W. Dodge,
Joseph S. Pollard,
James G. Morrison, '61.

WARD 4.

Atwell F. Wright, '63,
Daniel Churchill,
William W. Sherman,
Francis Jewett.

WARD 5.

John E. Downs, '63,
Thos. G. Gerrish, res'd June 14,
Charles Hubbard, '57,
Cleveland J. Cheney, '62.

WARD 6.

Levi Sprague, '59,
Tobias L. P. Lamson,
Addison Putnam,
Albion J. Dudley, '62, '63.

GEORGE GARDNER, *Clerk.***1865.****Mayor:**

JOSIAH G. PEABODY, * '50, '59, '60.

Aldermen:

Ew'd F. Watson, '40, '41, * '44, * '45, * '60,
George W. Norris, '61, '62, * '64,
Dana B. Gove, * '64,
William T. McNeill, '62, * '64,

Henry H. Wilder, '53, '54, * '60,
Josiah Gates, '63,
Cyrus H. Latham, '63, * '64,
William Brown, '45, '46.

JOHN H. McALVIN, *City Clerk.***Common Council:****WARD 1.**

Alden B. Watson, '64,
Lewis L. Perrin, '64,
George N. Osgood,
John R. Southwick, '47.

WARD 2.

George Ripley, † '64, *President*,
Andrew F. Jewett, '64,
Julian V. Keyes,
Chester W. Rugg.

WARD 3.

Joseph S. Pollard, '64,
Charles W. Dodge, '64,
Edward C. Rice,
Frederick T. North.

WARD 4.

Francis Jewett, '64,
Benjamin Walker,
Benjamin L. Googins,
John Pearson.

WARD 5.

Charles Hubbard, '57, '64,
James Kent,
Simeon D. Osterhoudt,
James Foster.

WARD 6.

Tobias L. P. Lamson, '64,
Luke C. Dodge,
Gustavus A. Gerry,
James M. Moore, '55.

GEORGE GARDNER, *Clerk.*

1866.**Mayor:****JOSIAH G. PEABODY**, *'50, '59, '60, †'65.**Aldermen:**

Samuel A. Brown,
 Albert B. Plimpton,
 John R. Southwick, '47, '65,
 Joseph L. Sargent, '60, '61,

Charles W. Dodge, '64, '65,
 Josiah Gates, '63, *'65,
 Henry M. Hooke,
 Albion J. Dudley, '62, '63, '64.

JOHN H. MCALVIN, *City Clerk*.**Common Council:****WARD 1.**

William A. Hodge,
 William A. Wright, '63,
 Jacob Baron, '61,
 Rollin C. Downs, '62.

WARD 2.

Andrew F. Jewett, '64, '65,
 George H. Whitmore,
 Julian V. Keyes, '65,
 Chester W. Rugg, '65.

WARD 3.

Edward C. Rice, '65,
 Frederick T. North, '65,
 James N. Pinkham,
 Oliver W. Smith.

WARD 4.

Benjamin L. Googins, '65,
 Alfred Scott,
 Thomas F. Burgess,
 Benjamin Walker, '65.

WARD 5.

Robert H. Butcher,
 John T. Lee,
 George L. Huntoon,
 Jonathan Johnson, '55, *'56, *'57.

WARD 6.

Gustavus A. Gerry, '65, *President*,
 Luke C. Dodge, '65,
 Charles A. Kimball,
 Alfred H. Chase.

GEORGE GARDNER, *Clerk*.**1867.****Mayor:****GEORGE F. RICHARDSON**, †'62, †'63, *'64.**Aldermen:**

Charles B. Coburn, '44, '51, *'56,
 Hocum Hosford, 60, *'61, †'62, †'63, †'64,
 John R. Southwick, '47, '65, *'66,
 Joseph L. Sargent, 60, '61, *'66,
 Edward C. Rice, '65, '66,

Abner W. Buttrick, '40, '44, '45, '50;
 died June 29, '67.
 Wm. E. Livingston, el. Sept. 9, '67.
 Wm. H. Parker, '61,
 Albion J. Dudley, '62, '63, '64, *'66.

JOHN H. MCALVIN, *City Clerk*.**Common Council:****WARD 1.**

John Shepard,
 Calvin Sawtell,
 Foster Wilson,
 M. Gilbert Perkins, '61.

WARD 2.

Gustavus A. Gerry, '65, †'66, *President*,
 Ruel J. Walker,
 William Dobbins,
 Silas Tyler, Jr.

WARD 3.

Jona. P. Folsom, '56, *'59, *'61, *'62,
 Frederick T. North, '65, '66,
 Samuel D. Prescott,
 Nathan M. Wright.

WARD 4.

John B. Hunt,
 John Q. A. Hubbard,
 Alfred Scott, '66,
 Thomas F. Burgess, '66.

WARD 5.

George L. Huntoon, '66,
 George S. Cheney,
 James Foster, '65,
 John T. Lee, '66.

WARD 6.

Alfred H. Chase, '66,
 James Lawton,
 John N. Peirce, Jr.,
 Foster Nowell, '60, '61, resigned
 May 14, '67.
 Wm. Kittredge, elected Sept. 9, '67.

GEORGE GARDNER, *Clerk*.

1868.**Mayor:**

GEORGE F. RICHARDSON, †'62, †'63, *'64, †'67.

Aldermen:

Charles B. Coburn, '44, '51, *'56, *'67.
Francis Jewett, '64, '65,
John M. Pevey, resigned in July.
Charles L. Hildreth, elected in Sept.
Silas Tyler, Jr., '67.

Edward C. Rice, '65, '66, *'67,
William E. Livingston, *'67,
Frederic Frye, '62, '63,
Albion J. Dudley, '62, '63, '64, *'66.
*'67.

JOHN H. McALVIN, *City Clerk.*

Common Council:**WARD 1.**

Calvin Sawtell, '67,
John Shepard, '67,
John F. Merrill,
Frederic T. Greenhalge.

WARD 2.

Francis D. Munn,
Joseph A. Patten, '55,
Ruel J. Walker, '67,
Henry S. Orange, '61, '62, '63.

WARD 3.

George W. Badger,
Samuel D. Prescott, '67,
William Walker,
Albert A. Haggett.

WARD 4.

William H. Anderson,
John Q. A. Hubbard, '67,
Charles T. Crane,
John B. Hunt, '67.

WARD 5.

Edwin Lamson,
George S. Cheney, '67.
William Kelley,
Ethan N. Spencer.

WARD 6.

John N. Peirce, Jr., '67,
James Lawton, '67,
Francis Brown,
Alfred H. Chase, '66, '67, *President.*

GEORGE GARDNER, *Clerk.*

1869.**Mayor:**

JONATHAN P. FOLSOM, '56, *'59, *'61, *'62, '67.

Aldermen:

Francis Jewett, '64, '65, *'68,
Henry H. Wilder, '53, '54, *'60, *'65,
Charles L. Hildreth, *'68,
Cyrus H. Latham, '63, *'64, *'65.

Hapgood Wright, '45, '46, *'56,
John Q. A. Hubbard, '67, '68,
George S. Cheney, '67, '68,
Charles A. Stott, '59, '60.

JOHN H. McALVIN, *City Clerk.* Resigned March 15, 1869.

SAMUEL A. McPHETRES, *City Clerk.* Elected March 15, 1869.

Common Council:**WARD 1.**

Frederic T. Greenhalge, '68,
John H. Durgin, Jr.,
Patrick Keyes,
Benjamin Patch.

WARD 2.

Joseph A. Patten, '55, '68,
Phineas Jones,
Francis D. Munn, '68,
Amos Sanborn.

WARD 3.

George W. Badger, '68,
Albert A. Haggett, '68,
William Walker, '68,
George E. Pinkham.

WARD 4.

William H. Anderson, '68, *Pres.*,
Simeon G. Lyford,
Henry P. Carter,
Epaphras A. Hill.

WARD 5.

William Kelley, '68,
Willard A. Brown,
William O. Fiske,
Edwin Lamson, '68.

WARD 6.

Francis Brown, '68,
Alpha B. Farr, '58,
Lucian P. Stacy, '55,
William Kittredge, '67.

GEORGE GARDNER, *Clerk.*

1870.**Mayor:**

JONATHAN P. FOLSOM, '56, *'59, *'61, *'62, '67, †'69.

Aldermen:

Edward F. Sherman,	Hapgood Wright, '45, '46, *'56, *'69.
Frank F. Battles,	John Q. A. Hubbard, '67, '68, *'69.
Charles L. Hildreth, *'68, *'69.	Addison Putnam, '64.
Amos B. French,	Charles A. Stott, '59, '60, *'69.

SAMUEL A. MCPHETRES, *City Clerk*.

Common Council:

WARD 1.	WARD 4.
John H. Durgin, Jr., '69.	Epaphras A. Hill, '69.
Benjamin Patch, '69.	Henry P. Carter, '69.
Patrick Keyes, '69.	Simeon G. Lyford, '69.
Samuel G. Ladd.	Michael Corbett.
WARD 2.	WARD 5.
Phineas Jones, '69.	William O. Fiske, '69.
John L. Moulton,	Willard A. Brown, '69.
Patrick Cummiskey,	James D. Hartwell.
David G. Skillings,	Jeremiah Crowley.
WARD 3.	WARD 6.
Albert A. Haggett, '68, '69, <i>President</i> .	Alpha B. Farr, '58, '69.
Henry P. Perkins, '60, '61.	William Kittredge, '67, '69.
Hocum Hosford, '60, *'61, †'62, †'63,	Lucian P. Stacy, '55, '69.
†'64, *'67, declined.	John Stott.
Matthew Donovan,	
John L. Meadowcroft, elected Jan. 24.	

GEORGE GARDNER, *Clerk*.

1871.**Mayor:**

EDWARD F. SHERMAN, *'70.

Aldermen:

Frank F. Battles, *'70,	Albert A. Haggett, '68, '69, †'70,
William F. Salmon, '58, '59, †'60,	Henry C. Howe, '53, '54,
John W. Smith, '49, '50,	Frederick Ayer,
Amos B. French, *'70,	Addison Putnam, '64, *'70.

SAMUEL A. MCPHETRES, *City Clerk*.

Common Council:

WARD 1.	WARD 4.
John H. Durgin, Jr., '69, '70,	Benj. Walker, '65, '66,
Samuel G. Ladd, '70,	Michael Corbett, '70,
Francis N. J. Haviland,	Francis H. Chandler,
Joel Knapp.	Charles T. Goddard.
WARD 2.	WARD 5.
William Dobbins, '67,	Jeremiah Crowley, '70,
John L. Moulton, '70,	Crawford Burnham,
Patrick Cummiskey, '70,	Henry C. Church,
Amos A. Blanchard.	Patrick Lynch.
WARD 3.	WARD 6.
Henry P. Perkins, '60, '61, '70, <i>Pres.</i>	Leonard Brown, '53, '54, '58, '59,
John L. Meadowcroft, '70,	John Stott, '70,
Horace Ela,	Abel T. Atherton,
Julius C. Jockow.	Nathaniel C. Sanborn.

GEORGE GARDNER, *Clerk*.

1872.**Mayor:**

JOSIAH G. PEABODY, *'50, '59, '60, †'65, †'66.

Aldermen:

Henry C. Howe, '53, '54, *'71,	Frederick T. North, '65, '66, '67,
Alexander G. Cumnock,	Benj. Walker, '65, '66, '71,
Benjamin Patch, '69, '70,	William Kelley, '68, '69,
Gustavus A. Gerry, '65, †'66, †'67,	Alpha B. Farr, '58, '69, '70.

SAMUEL A. MCPHETRES, *City Clerk*.

Common Council:

WARD 1.
John E. Webb, '58, '59,
Alonzo F. Caswell,
Southwell Farrington,
True P. Jordan.

WARD 2.
Leonard Brown, '53, '54, '58, '59, '71,
Amos A. Blanchard, '71,
Joseph S. Brown,
Earl A. Thissell.

WARD 3.
Henry P. Perkins, '60, '61, '70, †'71,
Horace Ela, '71, [Pres.
Julius C. Jockow, '71,
Charles F. Tilton.

WARD 4.
Nathaniel P. Favor,
Nathan W. Frye,
Henry A. Lord,
Alonzo L. Russell.

WARD 5.
Crawford Burnham, '71,
Charles F. Belden,
Luther J. Eames,
William Shepard.

WARD 6.
Abel T. Atherton, '71,
Nathaniel C. Sanborn, '71,
Samuel M. Chase,
Julian Talbot.

GEORGE GARDNER, *Clerk*.

1873.**Mayor:**

FRANCIS JEWETT, '64, '65, *'68, *'69.

Aldermen:

Jonathan P. Folsom, '56, *'59, *'61, *'62, '67, †'69, †'70,	Charles A. F. Swan, elected Jan. 14,
George Runels, '62, *'64,	Jacob H. Sawyer,
Edward Tuck, *'56, '58, *'59, declin'd,	Jeremiah Crowley, '70, '71,
Isaac Farrington, '46, '47, declined,	Alpha B. Farr, '58, '69, '70, *'72,
William Dobbins, '67, '71, elec. Jan. 14,	George Stevens.

SAMUEL A. MCPHETRES, *City Clerk*.

Common Council:

WARD 1.
John E. Webb, '58, '59, '72,
Alonzo F. Caswell, '72,
Frank Brady,
Stephen J. Smiley,

WARD 2.
Joseph S. Brown, '72,
Earl A. Thissell, '72,
Daniel Stickney,
Edward P. Woods.

WARD 3. [Pres.
Albert A. Haggett, '68, '69, †'70, *'71,
Charles F. Tilton, '72, resig'd Mar. 1,
William Bass,
James Owens,
James A. Loughlin, elected April 8.

WARD 4.
Atwell F. Wright, '63, '64,
Nathaniel P. Favor, '72,
Nathan W. Frye, '72,
Henry A. Lord, '72.

WARD 5.
Robert H. Butcher, '66,
Charles F. Belden, '72,
Jared P. Maxfield,
George Smith.

WARD 6.
Nathaniel C. Sanborn, '71, '72,
Samuel M. Chase, '72,
George W. S. Hurd,
Artemas S. Tyler.

GEORGE GARDNER, *Clerk*.

1874.**Mayor:**

FRANCIS JEWETT, '64, '65, *'68, *'69, †'73.

Aldermen:

Jeremiah Crowley, '70, '71, *'73,
 Benj. Walker, '65, '66, '71, *'72,
 Alonzo F. Caswell, '72, '73,
 Joseph S. Brown, '72, '73,

Jonathan Kendall, '42, '44, '52,
 George L. Huntoon, '66, '67,
 Nathaniel C. Sanborn, '71, '72, '73,
 George Stevens, *'73.

SAMUEL A. MCPHETRES, *City Clerk*.**Common Council:****WARD 1.**

Charles A. Welch, '57,
 Frank Brady, '73,
 Stephen J. Smiley, '73,
 Charles H. Harvey.

WARD 2.

Daniel Stickney, '73,
 Edward P. Woods, '73,
 Charles J. Eastman,
 Edward E. Reed.

WARD 3.

Julius C. Jockow, '71, '72,
 James Owens, '73,
 James A. Loughlin, '73,
 George W. Tilton.

WARD 4.

Charles T. Goddard, '71,
 Nathan W. Frye, '72, '73, *President*,
 Jacob H. Sawyer, *'73,
 Julian A. Richardson.

WARD 5.

Jared P. Maxfield, '73,
 John B. Lyford,
 Samuel P. Marin,
 John Scott.

WARD 6.

George W. S. Hurd, '73,
 Joel A. Abbott,
 Thomas Carolin,
 Jason Fuller.

GEORGE GARDNER, *Clerk*, died May 29.DAVID CHASE, *Clerk*, elected June 4.**1875.****Mayor:**

FRANCIS JEWETT, '64, '65, *'68, *'69, †'73, †'74.

Aldermen:

Benj. Walker, '65, '66, '71, *'72, *'74,
 Jacob Rogers,
 John A. Goodwin,
 Joseph S. Brown, '72, '73, *'74,

Hapgood Wright, '45, '46, *'56, *'69,
 James Owens, '73, '74,
 Alden B. Richardson,
 Samuel A. Chase.

SAMUEL A. MCPHETRES, *City Clerk*.**Common Council:****WARD 1.**

Charles A. Welch, '57, '74,
 Charles H. Harvey, '74,
 John F. Howard,
 John W. Welch.

WARD 2.

Earl A. Thissell, '72, '73,
 Edward E. Reed, '74,
 William A. Read,
 Leavitt R. J. Varnum.

WARD 3.

Albert A. Haggett, '68, '69, †'70, *'71,
 George W. Tilton, '74, [†'73, *Pres.*
 Charles Cowley,
 Thomas R. Garity.

WARD 4.

Josiah Butler,
 Francis Carll,
 Edward P. Dennis,
 Edward Stockman.

WARD 5.

James D. Hartwell, '70,
 John B. Lyford, '74,
 Orford R. Blood,
 Charles W. Sleeper.

WARD 6.

Joel A. Abbott, '74,
 Thomas Carolin, '74,
 Jason Fuller, '74,
 Albert D. Wright.

DAVID CHASE, *Clerk*.

1876.

Mayor:

CHARLES A. STOTT, '59, '60, *'69, *'70.

Aldermen:

Jacob Rogers, *'75,	Henry A. Hildreth,
John A. Goodwin, *'75, [†'73, †'75,	George E. Stanley,
Albert A. Haggett, '68, '69, †'70, *'71,	Francis Carll, '75,
Charles F. Belden, '72, '73,	William H. Wiggin, '57.

SAMUEL A. MCPHETRES, *City Clerk*.**Common Council:****WARD 1.**

John W. Welch, '75,
 Lewis Stiles,
 Daniel W. Manning,
 David M. Collins, '56, declined,
 John F. Howard, '75, elected Jan. 11.

WARD 2.

Leavitt R. J. Varnum, '75,
 Charles E. Hallowell,
 Charles Callahan,
 William A. Read, '75.

WARD 3.

Charles Cowley, '75,
 Charles H. Kimball,
 Charles Runels,
 James Howard, died after election,
 William H. Grady, elected Jan. 11.

WARD 4.

Edward Stockman, '75, res. May 23,
 Gardner W. King,
 Stephen H. Jones,
 Charles D. Starbird,
 James W. Bennett, elected June 22.

WARD 5.

Orford R. Blood, '75,
 John F. Kimball. *Pres. from* May 23.
 Charles H. Hanson,
 M. Gilbert Perkins, '61, '67.

WARD 6.

Edwin Sanborn,
 Benjamin C. Dean. *Pres.*, res. May 23,
 Charles H. Walker,
 John J. Pickman,
 Willis Farrington, elected June 22.

DAVID CHASE, *Clerk*.

1877.

Mayor:

CHARLES A. STOTT, '59, '60, *'69, *'70, †'76.

Aldermen:

Jeremiah Crowley, '70, '71, *'73, *'74,	Orford R. Blood, '75, '76, seat vacated,
Horace R. Barker,	Stephen B. Puffer, dec. el. Jan. 2,
George E. Stanley, *'76,	Robert Park,
Charles H. Kimball, '76,	George E. Pinkham, '69.
George P. Walker,	

SAMUEL A. MCPHETRES, *City Clerk*.**Common Council:****WARD 1.**

Daniel W. Manning, '76,
 Lewis Stiles, '76,
 John Courtney,
 Frank Brady, '73, '74, res. March 27,
 Jared P. Maxfield, '73, '74, elec. May 8.

WARD 2.

Charles E. Hallowell, '76,
 Francis D. Munn, '68, '69,
 Charles H. Robbins,
 Oliver M. Harding.

WARD 3.

William H. Grady, '76,
 Patrick Lynch,
 Simon Kelly,
 George E. Davis.

WARD 4.

Gardner W. King, '76,
 James W. Bennett, '76,
 Irving K. Goodale,
 Orlando Blodgett.

WARD 5.

John F. Kimball, †'76,
 Charles H. Hanson, '76,
 Peter S. Coburn,
 Robert Goulding.

WARD 6.

Edwin Sanborn, '76,
 John J. Pickman, '76,
 Charles H. Walker, '76,
 Augustus E. Spaulding, d. Jan. 10,
 George S. Cushing, elected Feb. 6.

DAVID CHASE, *Clerk*.

1878.

Mayor:

JOHN A. G. RICHARDSON.

Aldermen:

Stephen B. Puffer, * '77,
Robert Park, * '77,
Horace R. Barker, * '77,
George F. Scribner, '57,

George E. Scripture,
Joseph S. Pollard, '64, '55. [* '77,
Jeremiah Crowley, '70, '71, * '73, * '74,
Nathaniel C. Sanborn, '71, '72, '73, * '74.

SAMUEL A. MCPHETRES, *City Clerk.*

Common Council:

WARD 1.

John Courtney, '77,
John J. Mealey,
Joseph M. Ambrose,
Charles H. Harvey, '74, '75.

WARD 2.

Oramel A. Brigham,
Edward M. Tucke,
William W. Clark,
Albert W. Monty.

WARD 3.

Simon Kelly, '77,
Edward Cawley,
Henry P. Morris,
Samuel D. Butterworth.

WARD 4.

Irving K. Goodale, '77;
Orlando Blodgett, '77,
Robert G. Bartlett,
Stephen H. Jones, '75.

WARD 5.

Robert Goulding, '77.
Peter S. Coburn, '77,
John F. Kimball, † '76, † '77, *Pres.*,
Enos O. Kingsley, '56.

WARD 6.

George S. Cushing, '77,
Eli W. Hoyt,
Luke B. Taylor,
Miles F. Brennan, to Jan. 22,
Thomas Nesmith, from Jan. 22.

DAVID CHASE, *Clerk.*

1879.

Mayor:

JOHN A. G. RICHARDSON, † '78.

Aldermen:

Horace R. Barker, * '77, * '78,
Charles A. R. Dimon,
Joseph S. Pollard, '64, '65, * '78,
Charles S. Lilley,

George E. Scripture, * '78,
George F. Scribner, '57, * '78,
Charles F. Howe,
Robert Goulding, '77, '78.

SAMUEL A. MCPHETRES, *City Clerk.*

Common Council:

WARD 1.

Joseph M. Ambrose, '78,
John O'Donnell,
James Kelly,
Richard J. Noonan.

WARD 2.

Albert W. Monty, '78,
Charles H. Richardson,
William K. Chase, res. Nov. 25.
Edwin A. Robinson,
Edward M. Tucke, '78, elect. Dec. 9.

WARD 3.

Edward Cawley, '78,
Henry P. Morris, '78,
William T. Benson,
Patrick A. Rogers.

WARD 4.

Robert G. Bartlett, '78,
Fred Woodies,
Charles F. Varnum,
Charles E. Farrington.

WARD 5.

Albert W. Burnham,
Ambrose L. Ready,
Joseph M. Wilson,
Edward B. Peirce, *Pres.*

WARD 6.

Eli W. Hoyt, '78.
Luke B. Taylor, '78.
Major A. Shaw,
Miles F. Brennan, '78.

DAVID CHASE, *Clerk.*

1880.

Mayor:

FREDERIC T. GREENHALGE, '68, '69.

Aldermen:

James D. Hartwell, '70, '75,
Atwill F. Wright, '63, '64,
Charles H. Richardson,
Edwin Lamson, '68, '69,

Isaac F. Scripture, * '62, * '63
Robert Wood,
Charles H. Coburn,
James C. Abbott.

SAMUEL A. MCPHETRES, *City Clerk*.**Common Council:****WARD 1.**

James Kelly, '79,
Richard J. Noonan, '79,
Thomas J. Flynn.
Lawrence Cummings.

WARD 2.

Edwin A. Robinson, '79,
Wilbur L. Bates,
Samuel W. Foster.
Earl A. Thissell, '72, '73, '75, *Pres't*.

WARD 3.

Peter H. Donohoe,
William T. Benson, '79,
Patrick A. Rogers, '79,
Frank Wood.

WARD 4.

Fred Woodies, '79,
Charles F. Varnum, '79,
Charles E. Farrington, '79,
Charles D. Starbird, '76.

WARD 5.

Joseph M. Wilson, '79,
Ambrose L. Ready, '79,
Samuel Hosmer,
Edward B. Peirce, ‡ '79.

WARD 6.

Benjamin F. Freeman,
J. Tyler Stevens,
Charles C. Hutchinson.
Henry C. Cooper.

DAVID CHASE, *Clerk*.

1881.

Mayor:

FREDERIC T. GREENHALGE, '68, '69, † '80.

Aldermen:

Charles H. Richardson, * '80,
Isaac F. Scripture, * '62, * '63, * '80,
Robert Wood, * '80,
Ambrose L. Ready, '79, '80,

Levi Sprague, '59, '64,
Julius A. Stiles,
Samuel D. Butterworth, '78,
Thomas R. Garity, '75.

SAMUEL A. MCPHETRES, *City Clerk*.**Common Council:****WARD 1.**

Thomas J. Flynn, '80,
Lawrence Cummings, '80,
Robert J. Thomas,
Jeremiah J. Hayes.

WARD 2.

Zachariah D. Hall,
James M. Howe, '57, '59,
Hubert M. Potter,
Moses Gibson.

WARD 3.

Frank Wood, '80,
Peter H. Donohoe, '80,
John E. Maguire,
D. Moody Prescott.

WARD 4.

Julius C. Johnson,
Stephen C. Davis,
Edward Garner,
William N. Osgood.

WARD 5.

Atkinson C. Varnum,
Samuel Hosmer, '80,
Samuel P. Marin, '74,
Albert W. Burnham, '79.

WARD 6.

Charles C. Hutchinson, '80,
Albert G. Thompson,
Thomas Nesmith, '78,
Lawrence J. Smith.

DAVID CHASE, *Clerk*.

1882.**Mayor:****GEORGE RUNELS, '62, *'64.****Aldermen:**

Thomas R. Garity, '75, *'81, *Chair'n.*
 * Charles W. Sleeper,
 George B. Smith,
 William A. Wright, '63, '66,
 David Whitaker,

D. Moody Prescott, '81,
 George S. Cushing, '77, '78,
 John F. Phillips,
 † John Welch.

‡ SAMUEL A. McPHETRES, *City Clerk.*
 § DAVID W. O'BRIEN, " "

* Resigned, May 23; special election to fill vacancy, June 20.

† Elected June 20, to fill vacancy.

‡ Died Sept. 29, 1882.

§ Elected Oct. 4, 1882.

Common Council:**WARD 1.**

Robert J. Thomas, '81,
 Jeremiah J. Hayes, '81,
 Dennis J. Crowley,
 John A. Walsh.

WARD 2.

Zachariah D. Hall, '81,
 James M. Howe, '57, '59, '81,
 Moses Gibson, '81,
 James F. Puffer, Jr.

WARD 3.

Frank Wood, '80, '81,
 John E. Maguire, '81,
 John J. Mead,
 James Grady.

WARD 4.

Julius C. Johnson, '81,
 Stephen C. Davis, '81.
 Edward Garner,
 William N. Osgood, * '81.

WARD 5.

Atkinson C. Varnum, '81,
 Albert W. Burnham, '79, '81,
 Artemas B. Woodworth,
 Horace B. Barnes.

WARD 6.

Albert G. Thompson, '81,
 Lawrence J. Smith, '81,
 Thaddeus S. Cobb,
 Miles J. Fletcher.

DAVID CHASE, *Clerk.*

* President Council, 1882.

1883.**Mayor:****JOHN J. DONOVAN.****Aldermen:**

John F. Phillips, * '82, *Chairman.*
 George B. Smith, * '82,
 Robert J. Thomas, '81, '82,
 David Whitaker, * '82.

D. Moody Prescott, '81, *'82.
 Geo. W. Fifield,
 John Welch, * '82,
 Miles J. Fletcher, '82.

DAVID W. O'BRIEN, *City Clerk.***Common Council:****WARD 1.**

Dennis J. Crowley, '82.
 John J. Hogan,
 James H. Cahill,
 Daniel Murphy.

WARD 2.

Samuel Lawrence, '50,
 Joseph S. Brown, '72, '73, * '74, * '75.
 Albert W. Monty, '78, '79,
 John F. Thissel.

WARD 3.

James Grady, '82.
 John J. Mead, '82,
 Patrick J. Smith,
 Frank J. Donohue.

WARD 4.

James G. Elliott,
 Solomon K. Dexter,
 Alonzo L. Russell, '72,
 Geo. A. Bennett.

WARD 5.

Edward B. Peirce. † '79, '80,
 Artemas B. Woodworth, '82,
 John P. Mahoney,
 Geo. L. Ashworth.

WARD 6.

Lawrence J. Smith, '81, '82,
 Thaddeus S. Cobb, '82,
 J. Frank Page,
 Michael F. Clark.

DAVID CHASE, *Clerk.*

1884.**Mayor:****JOHN J. DONOVAN, † '83.****Aldermen:**

Robert J. Thomas, '81, '82, * '83, *Ch'n.*
 Miles J. Fletcher, '82, * '83,
 George W. Fifield, '83,
 Thaddeus S. Cobb, '82, '83,
 Edward B. Quinn,

Jeremiah Crowley, '70, '71, * '73,
 * '74, * '77, * '78,
 Peter H. Donohoe, '80, '81,
 Freeman B. Shedd.

DAVID W. O'BRIEN, City Clerk.**Common Council:****WARD 1.**

John J. Hogan, '83, *President.*
 James H. Cahill, '83,
 Daniel Murphy, '83,
 James H. Morrison.

WARD 2.

Joseph S. Brown, '72, '73, * '74, * '75, '83,
 Albert W. Monty, '78, '79, '83,
 Earl A. Thissell, '72, '73, '75, † '80,
 John R. Pike.

WARD 3.

Patrick J. Smith, '83,
 Peter J. Brady,
 Thomas J. Sparks,
 John Nolan.

WARD 4.

James G. Elliott, '83,
 Solomon K. Dexter, '83,
 Alonzo L. Russell, '72, '83,
 George A. Bennett, '83.

WARD 5.

Edward B. Peirce, † '79, '80, † '83,
 George L. Ashworth,
 Joseph M. Wilson, '79, '80,
 James S. Hanson.

WARD 6.

J. Frank Page, '83,
 Michael F. Clark, '83,
 Alfred M. Chadwick,
 Marcellus H. Fletcher.

DAVID CHASE, Clerk.**1885.****Mayor:****EDWARD J. NOYES.****Aldermen:**

John F. Phillips, * '82, * '83, *Chairman,*
 John F. Howe, '57, '58, * '59,
 William D. Brown,
 George E. Stanley, * '76, * '77,

James D. Hartwell, '70, '75, * '80,
 George F. Penniman,
 Oliver E. Cushing,
 James Francis.

SAMUEL M. CHASE, City Clerk.**Common Council:****WARD 1.**

Patrick H. Plunkett,
 James H. Morrison, '84,
 Thomas J. Enright,
 Henry F. Keyes.

WARD 2.

George W. Brothers,
 Walter M. Sawyer,
 James R. Fulton,
 Francis D. Munn, Jr.

WARD 3.

Peter J. Brady, '84,
 Patrick J. Smith, '83, '84,
 John Nolan, '84,
 Thomas J. Sparks, '84.

WARD 4.

Arnold S. Welch,
 George A. Roper,
 William A. Lang,
 Frank W. Howe.

WARD 5.

Wilson W. Carey,
 James S. Hanson, '84,
 Henry L. Newhall,
 Elwyn W. Lovejoy.

WARD 6.

Alfred M. Chadwick, '84, *Pres't,*
 George R. Richardson,
 Luke B. Taylor, '78, '79,
 William H. White.

DAVID CHASE, Clerk.

1886.**Mayor:****JAMES C. ABBOTT.****Aldermen:**

Jeremiah Crowley, '70, '71, *'73, *'74,
 *'77, *'78, *'84, *Chairman*,
 John F. Phillips, *'82, *'83, *'85,
 Stephen B. Puffer, *'77, *'78,
 George E. Stanley, *'76, *'77, *'85,

Daniel Wright,
 Samuel D. Butterworth, *'78, *'81,
 George F. Penniman, *'85,
 James Francis, *'85.

SAMUEL CHASE, *City Clerk.***Common Council:****WARD 1.**

Peter B. Sherlock,
 Patrick H. Plunkett, '85,
 Thomas J. Enright,
 Timothy H. Brennan.

WARD 2.

Walter M. Sawyer, '85, *President*,
 Charles H. Richardson, '79,
 James R. Fulton, '85,
 Francis D. Munn, Jr., '85.

WARD 3.

Daniel Cleary, '85,
 Patrick J. Mahan,
 Edward D. McVey,
 Thomas J. Sparks, '84, '85.

WARD 4.

Arnold S. Welch, '85,
 George A. Roper, '85,
 Frank W. Howe, '85,
 William A. Lang, '85.

WARD 5.

Henry L. Newhall, '85,
 Elwyn W. Lovejoy, '85,
 Wilson W. Carey, '85,
 Roswell M. Boutwell, '85.

WARD 6.

Lawrence J. Smith, '81, '82, '83,
 John E. Drury,
 Charles H. Hobson,
 Marcellus H. Fletcher, '84.

DAVID CHASE, *Clerk.***1887.****Mayor:****JAMES C. ABBOTT. †'86.****Aldermen:**

Stephen B. Puffer, *'77, *'78, *'86, *C'n*,
 Nathan D. Pratt,
 Francis C. Plunkett,
 August Fels,

Peter H. Donohoe, '80, '81, *'84,
 Miles J. Fletcher, '82, *'83, *'84,
 Frederick Frye, '62, '63, *'68,
 Marcellus H. Fletcher, '84, '86.

DAVID W. O'BRIEN, *City Clerk.***Common Council:****WARD 1.**

Michael J. Garvey,
 Dennis A. Sullivan,
 Daniel Murphy, '83, '84,
 Dennis J. Leary.

WARD 2.

Walter M. Sawyer, †'86,
 Charles H. Richardson, '79, '86,
 George C. Evans,
 Horace P. Beals.

WARD 3.

George B. McKenna,
 John Nolan, '84, '85,
 Daniel Cleary, '86,
 Patrick J. Smith, '83, '84, '85.

WARD 4.

Millard F. Wright,
 Edmund B. Conant,
 Jesse H. Shepard,
 Richard Dobbins.

WARD 5.

Roswell M. Boutwell, '86,
 George W. Brothers, '85,
 Clarence G. Coburn,
 James H. Carmichael, *Pres't.*

WARD 6.

Richard B. Allen,
 John E. Drury, '86,
 Patrick Conlon,
 Edward Gallagher.

WILLIAM J. COUGHLIN, *Clerk.*

1888.**Mayor:**

CHARLES D. PALMER.

Aldermen:

George A. Scribner,
George E. Putnam,
Charles Runels, '76,
Charles E. Carter,
Edward D. Holden,

Arthur Staples,
Roswell M. Boutwell, '86, '87,
Alfred M. Chadwick, *Chairman*,
'84, †'85.

GIRARD P. DADMAN, *City Clerk*.**Common Council:****WARD 1.**

Dennis A. Sullivan, '87,
Dennis J. Leary, '87,
Daniel Murphy, '83, '84, '87,
Michael J. Garvey, '87.

WARD 2.

Frank J. Sherwood,
Horace P. Beals, '87,
Harry E. Shaw,
Pierre A. Brousseau.

WARD 3.

John F. Rogers,
Owen M. Donohoe,
Thomas J. Sparks, '84, '85, '86,

*John F. Roane,

†Patrick H. Brosnahan.

*Resigned Aug. 9. Special Election to fill
vacancy Sept. 18.

†Elected Sept. 18 to fill vacancy.

DAVID CHASE, *Clerk*.**WARD 4.**

*Millard F. Wright, '87,
Edmund B. Conant, *President*, '87,
Jesse H. Shepard, '87,
Richard Dobbins, '87,

†Alonzo G. Walsh,

*Resigned April 24. Special Election
to fill vacancy June 5.

†Elected June 5 to fill vacancy.

WARD 5.

Charles C. Hartwell,
Clarence G. Coburn, '87,
George W. Brothers, '85,
Joseph S. Lapiere.

WARD 6.

William E. Westall,
Frank Brown,
Richard B. Allen, '87,
Abbott Lawrence.

1889.**Mayor:**

CHARLES D. PALMER. †'88.

Aldermen:

George A. Scribner, *'88,
Walter M. Sawyer, †'86, '87,
George E. Putnam, *'88,
Edward D. Holden,

Roswell M. Boutwell, *Ch'n*, '86, '87, *'88,
John H. Fuller,
William F. Senter,
John E. Drury, '86, '87.

GIRARD P. DADMAN, *City Clerk*.**Common Council:****WARD 1.**

Patrick J. Savage,
Joseph H. Callahan,
Daniel H. Courtney,
William J. Johnson.

WARD 2.

*Samuel C. George,
Pierre A. Brousseau, '88,
Arthur H. Cluer,
Frank J. Sherwood, '88,
†James Stuart Murphy.

*Resigned June 9.

†Elected July 2, to fill vacancy.

WARD 3.

Owen M. Donohoe, '88,
Stephen Garrify,
Patrick H. Brosnahan, '88,
Thomas J. Sparks, '84, '85, '86, '88.

WARD 4.

B. Frank Hale,
Edwards Cheney,
Alonzo G. Walsh, '88,
Frank Gray.

WARD 5.

Orford R. Blood, '75, '76,
Charles C. Hartwell, '88,
Henry W. Ladd,
Henry J. Draper.

WARD 6.

William E. Westall, *Pres't*, '88,
Abbott Lawrence, '88,
Albert Crowell,
Frank Brown, '88.

DAVID CHASE, *Clerk*.

1890.**Mayor:**

CHARLES D. PALMER, † '88, † '89.

Aldermen:

Albert D. Carter,
Watson A. Dickinson,
John E. Drury, '86, '87, *'89,
Edmund D. Fletcher,

John H. Fuller, *'89, *Chairman*,
Walter M. Sawyer, † '86, '87, *'89,
Samuel E. Snow,
Joseph M. Wilson, '79, '80, '84.

GIRARD P. DADMAN, *City Clerk*.**Common Council:****WARD 1.**

Joseph H. Callahan, '89,
Daniel H. Courtney, '89,
William J. Johnson, '89,
Patrick J. Savage, '89.

WARD 2.

Newell Abare,
Arthur H. Cluer, '89,
Walter C. Coburn,
James Stuart Murphy, '89.

WARD 3.

Patrick H. Brosnahan, '88, '89,
Robert C. Gallagher,
Charles L. Marren,
Thomas J. Sparks, '84, '85, '86, '88, '89.

WARD 4.

Edwards Cheney, '89,
Frank Gray, '89,
B. Frank Hale, '89,
Alonzo G. Walsh, '88, '89, *President*.

WARD 5.

Orford R. Blood, '75, '76, '89,
Herbert M. Jacobs,
Henry W. Ladd, '89,
Louis P. Turcotte.

WARD 6.

Albert Crowell, '89,
Daniel D. Driscoll,
James Gookin,
Edward F. Spalding.

DAVID CHASE, *Clerk*.**1891.****Mayor:**

GEORGE W. FIFIELD, * '83, * '84.

Aldermen:

Richard B. Allen, '86, '87,
James W. Cassidy,
Jeremiah Crowley, '70, '71, *'73, *'74,
*'77, *'78, *'84, *'86, *Chairman*,
Watson A. Dickinson, *'90,

Thomas J. Enright, '85, '86,
George H. Frye,
Stephen B. Puffer, *'77, *'78, *'86,
*'87,
George F. Tilton.

MICHAEL J. DOWD, *City Clerk*.**Common Council:****WARD 1.**

Patrick H. Barry,
James F. Doherty,
John J. Sullivan,
Peter F. Garrity.

WARD 2.

Newell Abare, '90,
Adolphe Benard,
Walter C. Coburn, '90,
George H. Marston.

WARD 3.

Patrick J. Baxter,
John J. Gilbride,
Charles H. Marren, '90,
Thomas J. Sparks, '84, '85, '86, '88,
'89, '90, *President*.

WARD 4.

Edwin L. Giles,
Fred Horne,
Wallace G. Parkin,
Eugene C. Wallace.

WARD 5.

Herbert M. Jacobs, '90,
George D. Kimball,
John A. Speirs,
Louis P. Turcotte, '90.

WARD 6.

James A. Cawley,
James J. Dolan,
Daniel D. Driscoll, '90, .
James Gookin, '90.

DAVID CHASE, *Clerk*.

1892.**Mayor:**

GEORGE W. FIFIELD, * '83, * '84, † '91.

Aldermen:

Samuel D. Butterworth, *'78, *'81, *'86,
James W. Cassidy, *'91,
William J. Coughlin,
Albert A. Haggett, '68, '69, †'70, *'71,
*'76, *Chairman*,

Stephen J. Johnson,
Freeman W. Puffer,
Frank E. Stowell,
Charles F. Varnum, '79, '80.

MICHAEL J. DOWD, *City Clerk*.**Common Council:****WARD 1.**

John Brunette,
James O'Neill,
Joseph O'Rourke,
John J. Sullivan, '91.

WARD 2.

Adolphe Benard, '91,
George H. Marston, '91,
Frank Scott,
Hugh A. Thompson.

WARD 3.

Patrick J. Baxter, '91,
John J. Gilbride, '91,
Thomas J. Sparks, '84, '85, '86, '88,
'89, '90, '91, *President*.
William H. Stafford.

WARD 4.

Edwin L. Giles, '91,
Fred Horne, '91,
Wallace G. Parkin, '91,
Moses Wyman.

WARD 5.

Constant Henotte,
Patrick H. Kehoe,
Joseph A. McDonald,
Charles W. Swan.

WARD 6.

William T. Benson, '79, '80,
James J. Dolan, '91,
Thomas F. Hoban,
Michael F. McCarthy.

DAVID CHASE, *Clerk*.**1893.****Mayor:**

JOHN J. PICKMAN, '76, '79.

Aldermen:

George R. Choate,
George C. Evans, '87,
Stephen J. Johnson, *'92,
Elwyn W. Lovejoy, '85, '86,

Joseph A. McDonald, '92,
Freeman W. Puffer, *'92,
Stephen B. Puffer, *'77, *'78, *'86, *'87,
*'91,
William E. Westall, '88, †'89, *Chairman*.

MICHAEL J. DOWD, *City Clerk*.**Common Council:****WARD 1.**

John Brunette, '92,
Patrick J. O'Brien,
James O'Neil, '92,
Fred H. Rourke.

WARD 2.

Charles H. Boisvert,
Frank Scott, '92,
Hugh A. Thompson, '92,
George H. Tryder.

WARD 3.

Frank Dunlap,
John J. Grady,
John Joseph O'Connor,
William H. Stafford, '92.

WARD 4.

George E. Barclay,
William J. Hills,
Charles T. Killpartrick,
Moses Wyman, '92.

WARD 5.

Cyrille Constantineau,
Patrick J. Custy,
Charles H. Noble,
James O'Sullivan.

WARD 6.

William T. Benson, '79, '80, '92, *President*,
James J. Dolan, '91, '92,
Thomas F. Hoban, '92,
Anthony Robinson.

FRANK J. SIMONDS, *Clerk*.

ORDINANCES OF THE CITY OF LOWELL,
PASSED SINCE 1883.

CITY OF LOWELL.

In the year Eighteen Hundred and Eighty-four.

AN ORDINANCE REGULATING THE ERECTION AND MAINTENANCE
OF WIRES IN STREETS AND WAYS.

Be it Ordained, by the City Council of the City of Lowell, as follows :

SECTION 1. The Mayor and Aldermen may give to telegraph, telephone, electric light, and other companies desirous of erecting and maintaining wires in the streets and ways of the city, instruments in writing specifying where in said streets and ways the posts of said companies may be located, the kind of posts, and the height to which, and the places where, the wires of said companies shall run. *Provided*, that no such company shall be permitted to erect or maintain their said wires in such positions as to cross from above any wire of the Lowell fire-alarm telegraph. And provided further, that any and all of said companies shall erect and maintain the top-most cross-bar on their said posts for the exclusive use of the wires of the said Lowell fire-alarm telegraph, and such other wires as the City may at any time attach thereto for its own use.

In Common Council, Dec. 10, 1884.

Passed to be ordained.

JOHN J. HOGAN, President.

In Board of Aldermen, Dec. 16, 1884.

Passed to be ordained.

ROBERT J. THOMAS, Chairman.

Approved Dec. 31, 1884.

JOHN J. DONOVAN, Mayor.

CITY OF LOWELL.

In the year Eighteen Hundred and Eighty-five.

AN ORDINANCE PROHIBITING THE SALE OR RENTAL OF CITY
PROPERTY BY CITY OFFICIALS.

Be it Ordained, by the City Council of the City of Lowell, as follows :

No property of the City of Lowell shall be sold, let, or rented, or disposed of in any way by a superintendent of any department, or by a member of any committee, or by any officer or official whatever, or except by and in pursuance of a vote of an appropriate committee, or of the City Council.

And no property or material sold shall be delivered to the purchaser until the same has been paid for to the City Treasurer, and a receipted bill for the payment of the same shall be shown.

In Common Council, May 26, 1885.

Passed to be ordained.

A. M. Chadwick, President.

In Board of Aldermen, June 2, 1885.

Passed to be ordained.

JOHN F. PHILLIPS, Chairman.

Approved.

EDWARD J. NOYES, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-five.

AN ORDINANCE TO REGULATE THE CONSTRUCTION, USE, AND
REPAIRS OF WATER PIPES AND FIXTURES.

Be it Ordained, by the City Council of the City of Lowell, as follows:

SECTION 1. All plumbing and piping work done in the construction of all water pipes and fixtures, through which, or by means of which, water is furnished or distributed by the City whether such pipes and fixtures belong to the City or not, shall be done by a plumber or piper licensed, as hereinafter provided, by the Board of Aldermen.

SECT. 2. Licenses for the purpose named in Section 1 may be granted for the term of one year to any plumber or piper, or firm of plumbers or pipers, or firms employing plumbers or pipers, upon the payment of a license fee of one dollar (\$1). Every person or firm so licensed shall give bonds to the City in the sum of three hundred dollars (\$300), with sureties, to be approved by the Board of Aldermen, conditioned to perform all work in a skillful and workmanlike manner, to observe all rules and regulations now made or hereafter made by the Water Board, and to save the City harmless from all claims and damages resulting from imperfect or unskillful work, or negligence by them, their agents, or servants.

SECT. 3. The Water Board is hereby authorized to make such rules and regulations as to it shall seem fit, respecting plumbers and pipers and plumbing and piping work, in con-

nection with water pipes and fixtures; *provided* that such rules and regulations are submitted to and approved by the Board of Aldermen.

SECT. 4. No person shall perform any labor in the nature of plumbing or piping upon or in connection with any water pipes or fixtures through which, or by means of which water is furnished or distributed by the City of Lowell, whether such pipes or fixtures are owned by the City or not, except under the authority of the license hereinbefore named, on pain of forfeiting a sum of not less than five dollars (\$5), nor more than twenty dollars (\$20), for each offence.

SECT. 5. No person shall remove or interfere with any water meter, unless especially authorized so to do by the Water Board, on pain of forfeiting a sum not less than five dollars (\$5), nor more than twenty dollars (\$20), for each offence.

SECT. 6. This act shall take effect from and after its passage.

In Common Council, July 14, 1885.

Passed to be ordained.

ALFRED M. CHADWICK, President.

In Board of Aldermen, July 21, 1885.

Passed to be ordained.

JOHN F. PHILLIPS, Chairman.

Approved July 22, 1885.

EDWARD J. NOYES, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-five.

AN ORDINANCE CHANGING THE TITLE OF AN OFFICER OF THE
CITY.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That wherever the words "City Marshal" appear in the Revised Ordinances of the City of Lowell, the same be stricken out, and the words "Chief of Police" inserted in place thereof.

In Common Council, Dec. 31, 1885.

Passed to be ordained.

ALFRED M. CHADWICK, President.

In Board of Aldermen, Dec. 31, 1885.

Passed to be ordained.

JOHN F. PHILLIPS, Chairman.

Approved Dec. 31, 1885.

EDWARD J. NOYES, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-six.

AN ORDINANCE TO AMEND CHAPTER FOURTEEN OF THE REVISED
ORDINANCES OF 1883.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That Sect. 2 of Chap. 14 of the Revised Ordinances of 1883 be amended as follows:

By striking out the word "and" at the beginning of the second line and inserting in place thereof the word "the."

By inserting after the word "council" in the same line, the words "and Superintendent of Public Schools."

By striking out the words "one from each ward" in the third line and by striking out all after the word "years" in the eleventh line.

That Sect. 4 be amended by striking out all after the word "chosen" in the first line, and inserting the following: "In the month of December, 1886, and whenever a vacancy occurs, by a vote of the Board of Directors, a Librarian of the City Library, who shall hold his office until removed for cause."

That Sect. 5 be amended by inserting after the word "said" at the beginning of the eighth line, the words "library and."

In Common Council, March 23, 1886.

Passed to be ordained.

WALTER M. SAWYER, President.

In Board of Aldermen, March 30, 1886.

Passed to be ordained.

JEREMIAH CROWLEY, Chairman.

Approved March 31, 1886.

JAMES C. ABBOTT, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-six.

AN ORDINANCE FOR THE REGULATION OF PLUMBING.

Be it Ordained, by the City Council of the City of Lowell, as follows :

SECTION 1. No person shall carry on the business of plumbing unless he shall have first registered his name and place of business in the office of the City Engineer, and notice of any change in the place of business of a registered plumber shall be immediately given to said City Engineer.

SECT. 2. Every plumber, before doing any work in a building, shall, except in the case of repairs or leaks, file at the office of the City Engineer, upon blanks to be provided by the Board of Health for the purpose, a notice of the work to be performed. No person shall commence work on such drainage, or plumbing, until the plans are approved by the Board of Health. Plans and specifications shall be approved or rejected within five days of the time of filing.

SECT. 3. The Board of Health must be notified when any work is ready for inspection, and all work must be left uncovered and convenient for examination until inspected and approved.

SECT. 4. Every building shall be separately and independently connected with the common sewer, or cesspool, said cesspool to be approved by the Board of Health.

SECT. 5. Drains and soil-pipes, through which water and sewage is used and carried, shall be of iron, or Akron, or cement drain-

pipe, to be approved by the Board of Health when within a building. They shall be supplied with a suitable trap placed with an accessible clean-out, either outside or inside the foundation wall of the building. There shall be a fresh air inlet pipe entering the soil-pipe or drain on the house side of the main trap of not less than four inches internal diameter. All soil-pipes shall be carried out through the roof, open and undiminished in size, in such height as may be directed by the Board of Health, but no soil-pipe shall be carried to a height less than two feet above the roof.

SECT. 6. Every sink, basin, bath-tub, water-closet, slop-hopper and each set of trays, and every fixture having a waste-pipe, shall be furnished with a trap, which shall be placed as near as practicable to the fixture that it serves. Traps shall be protected from siphonage, or air pressure by special air-pipes of a size not less than the waste-pipe; but air-pipes from water-closet traps shall be of not less size than two-inch bore for thirty feet or less, and not less than three-inch bore for more than thirty feet, and shall be run as direct as practicable.

SECT. 7. Drip or overflow pipes from safes under water-closets and other fixtures, or from tanks or cisterns, shall be run to some place in open sight, and in no case shall any such pipe be connected directly with a drain waste-pipe or soil-pipe. Water-pipe from refrigerators, or other receptacles in which provisions are stored, shall not be connected with a drain, soil-pipe or other waste-pipe.

SECT. 8. Every water-closet, or line of water-closets on the same floor, shall be supplied with water from a tank or cistern, and the flushing-pipe shall not be less than one inch in diameter; *provided*, that where it is impracticable by reason of frost, the Board of Health may give a written permission for other service.

SECT. 9. The provisions of Sections 3 to 9 inclusive of this

ordinance shall apply only to buildings erected, or to work performed after its passage.

In Common Council, April 27, 1886.

Passed to be ordained.

WALTER M. SAWYER, President.

In Board of Aldermen, May 18, 1886.

Passed to be ordained.

JEREMIAH CROWLEY, Chairman.

Approved May 20, 1886.

JAMES C. ABBOTT, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-seven.

AN ORDINANCE AMENDING SECTION ONE, CHAPTER TWENTY, OF
THE ORDINANCES RELATING TO ELECTION OF CHIEF ENGINEER
OF FIRE DEPARTMENT.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That Chap. 20, Sect. 1, of the City Ordinances be, and the same hereby is, amended as follows, viz.: By inserting between the word "require" in the fifth line of said section, and the word "and" in the sixth line, the following words:

"The Chief Engineer shall be appointed by the Mayor and Aldermen in the month of March or April, and whenever a vacancy occurs, and he shall enter upon the discharge of the duties of said office on the first day of May of the year in which appointed, if appointed for a full term, prior to May of any year, and he shall hold said office for the term of three years from said first day of May, or until he is removed, and if appointed after the first day of May of any year, he shall enter upon the discharge of the duties of said office forthwith, and shall continue therein until the expiration of the full term as existing at the time of his said appointment, or until removed."

And by inserting the word "assistant" between the word "said" and the word "engineers" in the sixth line of said section.

And by inserting between the words "member" and "no"

in the sixteenth line of said section, the following words, viz.:
"Except that the Chief Engineer shall not be removed without a hearing and cause shown thereat."

In Common Council, Oct. 11, 1887.

Passed to be ordained.

JAMES H. CARMICHAEL, President.

In Board of Aldermen, Nov. 8, 1887.

Passed to be ordained.

STEPHEN B. PUFFER, Chairman.

Approved Nov. 11, 1887.

JAMES C. ABBOTT, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-seven.

AN ORDINANCE TO AMEND CHAPTER NINE OF THE REVISED
ORDINANCES.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That Section 1, Chap. 9, of the Revised Ordinances be, and the same is, hereby amended, by striking out the word "February" and inserting instead thereof the word "April."

In Common Council, Nov. 14, 1887.

Passed to be ordained.

JAMES H. CARMICHAEL, President.

In Board of Aldermen, Nov. 21, 1887.

Passed to be ordained.

STEPHEN B. PUFFER, Chairman.

Approved.

JAMES C. ABBOTT, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-seven.

AN ORDINANCE AMENDING THE ORDINANCES OF THE CITY OF LOWELL, AND DEFINING AND LIMITING THE POWERS OF STANDING COMMITTEES.

Be it Ordained, by the City Council of the City of Lowell, as follows:

SECTION 1. All standing committees of the City Council, or of either branch thereof, shall act only in committee meeting duly assembled, and no business other than to adjourn shall be transacted at any committee meeting unless a majority of the committee shall be actually present.

SECT. 2. As speedily as possible after their appointment, each committee shall organize by the choice of one of their number as secretary, whose duty it shall be to keep a true and accurate record of the doings of his committee in a record book, to be kept for that purpose; which book, at the expiration of the year, shall be by the secretary deposited either with the City Clerk, or the chief executive officer of the department to which the record relates, to be by said City Clerk, or said chief executive officer, turned over to the newly appointed committee.

The City Solicitor shall keep a docket, giving the names of the parties who have brought actions against the City, or against whom the City has any action pending. He shall also keep another record of cases properly indexed; the name and residence of each witness to be written in said record, and

the substance of what said witness will testify to, shall also be inscribed in said book; and, if possible, the same shall be signed by the witness. The docket, record-book, and all briefs shall, at the expiration of the City Solicitor's term of office, be handed to his successor, and shall be the property of the City of Lowell.

SECT. 3. It shall in general be the duty of each of the standing committees to exercise a close supervision over all matters of detail relating to their respective departments, coming before them in the regular course; to inform themselves as nearly as may be, and at as early a date after their appointment as possible, as to the amount of appropriation required to properly manage the affairs of their respective departments for the ensuing year, and to cause the same to be reported by written statement, which shall be itemized as closely as practicable to the committee on appropriations, to be by said committee used as a basis from which to make up their annual appropriations, and to approve no bills to be paid from their respective appropriations, save only such as may relate to their respective departments, and have been duly contracted by them or by their authority.

SECT. 4. They may make contracts relating to their respective departments, and shall see to it that in all cases the provisions of Chapter Sixteen of the City Ordinances shall be strictly observed; *provided*, that they shall not by contract incur debts amounting in the aggregate to a larger sum than the unexpended amount of their appropriation for the current year; nor shall any such committee, except the joint standing committee on streets and the standing committee on sewers, make, or authorize the making of, any contracts involving the creation of a debt against the City exceeding two thousand dollars in amount, or if a continuing contract, one which shall extend beyond the municipal year for which said committee may have been appointed, unless they shall have been expressly authorized so to do by resolution, order, or vote of the main

body of the council, from which said committee shall have been appointed.

SECT. 5. The direction which, by the terms of Chapter Thirty-five, City Ordinances, the committee on streets is authorized to exercise over the Superintendent of Streets in the constructing, maintaining, repairing, and caring for public streets, ways, and bridges, and the making of contracts for labor and materials required therein, and in the building of sidewalks, shall be extended as far as to vest in said committee, exclusive of the said superintendent, all matters of detail regarding the purchase of supplies and materials to be used in the building, maintaining, repairing, and taking care of either streets, bridges, or sidewalks, and the purchase, keeping, or caring for any and all property belonging to, or employed in, said department; and said superintendent shall submit to said committee for their approval any contemplated purchase of supplies, material, or property of any kind for said department, the cost of which shall exceed one hundred dollars, and such contract of purchase shall not become binding on the City until duly approved by said committee.

SECT. 6. Said committee on streets shall determine as to the order in which work on the different streets, ways, and sidewalks, whether in constructing or repairing the same, shall be done; when work shall be begun and when stopped; *provided*, that no work of new construction of either streets, bridges, or sidewalks shall be undertaken unless there shall be an unexpended balance to the credit of the appropriation of the department, or unless specially authorized by express vote of the City Council.

SECT. 7. Said committee shall determine as to the number of laborers to be employed in said department, and may, if in their judgment the interest of the department requires it, create or discontinue positions of authority in the department subordinate to that of superintendent; but the direction which the committee shall exercise over the working of the depart-

ment shall not extend so far as to permit said committee, or any member thereof, directly or personally, to employ or discharge any officer or workman employed therein.

SECT. 8. It shall be the duty of this committee to see to it, by suitable directions given to the said superintendent, that, in addition to other ordinary repairs of streets, all sidewalks on public ways, adjoining property of the City, including the sidewalks on such bridges as are public ways, shall be kept clear from ice and snow, and in a reasonably safe and convenient condition for traveling thereon; and the bills incurred in this work shall be paid from the appropriation of the street department.

SECT. 9. Annually, prior to the making of the annual appropriations, said committee shall consider the rate of wages paid to the different grades of employes in the street department, with the view of ascertaining whether the same is just and reasonable, or otherwise; and if, in the judgment of said committee, said rate should be in any particular altered, they shall report thereon, with their recommendations, to the City Council, and said committee may so consider and report on said subject at any other time during the year.

SECT. 10. In ascertaining the powers which the committee on sewers shall exercise in the constructing, maintaining, and repairing of main drains and common sewers, or in contracting for labor or materials to be used therein, the same rule shall be, in all respects, applied as has been hereinbefore laid down with respect to the committee on streets, except that the report to be made annually concerning the rate of wages to be paid to employes on the sewer department shall be made to the Board of Aldermen instead of to the City Council.

SECT. 11. All contracts for the furnishing of supplies or materials, or for the purchase of any property by the City for use in the police department, to an amount exceeding one hundred dollars, shall be made only by the authority of the committee on police.

SECT. 12. The employing and fixing the pay of whatever help or assistance of a permanent nature may be required in the custody or control of prisoners, the care of the station-house, or the property belonging to the City and used in connection with the police department, other than that afforded by the regular members of the police force, including the police matron, shall be in said committee on police.

SECT. 13. All nominations of persons to serve as police officers and watchmen, whether designated as regular officers, special officers, or supernumeraries, shall, before action thereon by the Board of Aldermen, be referred to the committee on police, to be by them reported back to the Board of Aldermen, with their recommendations, at or before the next regular meeting of said board.

SECT. 14. All petitions for the appointment or removal of police officers or watchmen, whether referring to regular, special, or supernumerary officers, and all charges or matters coming before the Board of Aldermen and specially relating to the members of the police department, or any of them, shall, before any action thereon is taken by the board, be referred to the committee on police, unless such may have already been considered reported by said committee.

SECT. 15. No member of the police force shall be fined or suspended from duty for any indefinite period, except with the approval (to be indicated by their vote) of said committee on police; *provided*, that the chief of police may, for cause sufficient in his judgment, suspend any police officer until such time as he may cause the said committee to be convened to investigate as to the propriety of such suspension.

SECT. 16. The committee on lands and buildings shall have in general charge the construction and all repairs and the making of all contracts relating to labor and material used in the construction and repairing of all buildings belonging to the city, to whatever department's use said buildings may be especially designed or designated, save only such construction or repair-

ing as the City Council may, by resolution, order, or vote, especially authorized to be let out by contract; or such work in the nature of minor repairs as may be done by persons regularly employed in the department, to whose use such buildings are especially designated.

SECT. 17. Whenever such work, whether in the way of construction of new, or repairs in old, buildings, shall be so done under the general charge of said committee on lands and buildings, all bills contracted in the same, whether for labor, or materials, or both, shall be paid from said committee's appropriations; *provided*, that by express agreement between said committee and the committee having in charge the department specially benefited by said work, the whole or any part of said bills may be charged to the appropriation of said last-named committee; in which case, bills so charged shall be approved, before payment, by both of said committees.

SECT. 18. In ascertaining the powers which the committee on lands and buildings shall exercise in such work of construction or repairs as may be undertaken by them, or in contracting for labor or materials to be used therein, the same rule shall be in all respects applied as has been hereinbefore laid down with respect to the committee on streets.

SECT. 19. All contracts for the furnishing of supplies or materials, or for the purchase or keeping of any property by the City for use in the fire department, to an amount exceeding one hundred dollars, shall be made only by authority of the committee on fire department.

SECT. 20. All contracts of or concerning any of the city printing or advertising, save only such as are by law made subject to the Board of Aldermen exclusively, to whatever department of the city said printing or advertising especially relates, shall be made only under the authority of the committee on printing, and shall be paid for from said committee's appropriation.

[This section shall go into effect on the first Monday of January, 1888.]

SECT. 21. No member of either branch of the City Council shall be eligible to the office of overseer of the poor.

[This section shall take effect on the first Monday of January, 1888.]

SECT. 22. Revised Ordinances, Chap. 1, Sect. 13, is hereby amended as follows, viz.: By striking out the word "November" in the second line, and substituting in place thereof the following words, viz.: "December, and after the annual municipal election shall have been held"; and by inserting between the word "established" and the word "and" in the fifth line the following words, viz.: "Provided, that in case any new office shall be created, the salary of said newly created office may be fixed at any time."

SECT. 23. No owner, driver, or other person having the care or ordering of a vehicle upon Prescott street, or that part of Merrimack street between John street and Bridge street or that part of Central street between Merrimack street and Market street, at any time between the hours of 8 A. M. and 9 P. M., shall suffer the same to stop for more than five minutes without some proper person to take care of the same, nor for more than ten minutes in any case; but the foregoing provisions shall not apply to carriages of physicians while engaged in their business.

SECT. 24. No owner, driver, or other person having the care or ordering of a vehicle upon any public street or way in the City, shall stop or place it at or near the intersection of two or more streets in such a manner as to cross a footway, a flagstone, or to prevent foot passengers from passing along a street in the direction or line of the footway or flagstone thereon.

SECT. 25. Every driver of a vehicle upon any public street in the City shall remain near it while it is unemployed or standing, unless he is necessarily absent in the course of his duty and

business, and he shall so keep his horse or horses and vehicle as not to obstruct the streets.

SECT. 26. No owner, driver, or other person having the care or ordering of a vehicle shall hitch or fasten the horse or horses attached thereto, to any street lamp-post upon any of the public ways of the City.

SECT. 27. Any person who shall offend against any of the provisions of the foregoing sections, from twenty-three to twenty-six, both inclusive, shall be punished for each offense by a fine not exceeding twenty dollars.

In Board of Aldermen, Dec. 30, 1887.

Passed to be ordained.

STEPHEN B. PUFFER, Chairman.

In Common Council, Dec. 30, 1887.

Passed to be ordained.

JAMES H. CARMICHAEL, President.

Approved.

JAMES C. ABBOTT, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-eight.

AN ORDINANCE TO AMEND THE ORDINANCE ENTITLED: AN ORDINANCE AMENDING THE ORDINANCES OF THE CITY OF LOWELL, AND DEFINING AND LIMITING THE POWERS OF STANDING COMMITTEES.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That Sect. 2 of the Ordinance amending the Ordinances of the City of Lowell, and defining and limiting powers of standing committees, be, and the same hereby is, amended as follows: By inserting after the word "Committee" and before the word "shall," in the second line, the words "except the joint standing committee on streets and the standing committee on sewers."

In Common Council, Feb. 14, 1888.

Passed to be ordained.

E. B. CONANT, President.

In Board of Aldermen, Feb. 14. 1888.

Passed to be ordained.

A. M. CHADWICK, Chairman.

Approved Feb. 15, 1888.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-eight.

AN ORDINANCE RESTRICTING THE DISTRIBUTION OF HANDBILLS,
CIRCULARS, PROGRAMMES, AND ADVERTISING SLIPS.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That no person shall cause to be distributed any handbill, circular, programme, or advertising slip in or upon any street or sidewalk in the City, excepting that such handbill, circular, programme, or advertising slip may be placed within the doors of stores, offices, and business houses, and at the doors of residences.

Any person who shall offend against any of the provisions of this ordinance shall be punished for each offence by a fine not exceeding twenty dollars.

In Common Council, July 17, 1888.

Passed to be ordained.

E. B. CONANT, President.

In Board of Aldermen, Aug. 3, 1888.

Passed to be ordained.

A. M. CHADWICK, Chairman.

Approved Aug. 3, 1888.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-eight.

AN ORDINANCE TO AMEND SECTION EIGHT OF CHAPTER TWENTY
OF THE REVISED ORDINANCES OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows:

SECTION 1. That Sect. 8 of Chap. 20 of the Revised Ordinances of the City of Lowell be, and the same is hereby, amended by inserting in the first line thereof, after the word "Engineer," and before the word "to," the words "who may appoint some members of the Fire Department to assist him in such duty."

In Common Council, Aug. 16, 1888.

Passed to be ordained.

E. B. CONANT, President.

In Board of Aldermen, Aug. 21, 1888.

Passed to be ordained.

A. M. CHADWICK, Chairman.

Approved Aug. 21, 1888.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-eight.

AN ORDINANCE PROHIBITING THE THROWING OF FRUIT, VEGETABLES, ETC., ON SIDEWALKS OR CROSSWALKS.

Be it Ordained, by the City Council of the City of Lowell, as follows:

SECTION 1. Any person who shall cast, throw, place, or deposit on any sidewalk or crosswalk in any street, avenue, or public place within the corporate limits of the City of Lowell, any part or portion of any fruit or vegetable or other substance, which, when stepped upon by any person, is liable to cause, or does cause, such person to slip or fall, shall be punished by a fine not exceeding twenty dollars.

SECT. 2. The proprietor of every store or other place where fruit, vegetables, or other substances mentioned in the preceding section of this ordinance are sold, or kept for sale, shall keep suspended therein or posted thereon in some conspicuous place, constantly, a copy of sections one and two of this ordinance, printed in large type, so that persons purchasing any such fruit, vegetable, or other substances may become aware of their provisions, and every proprietor refusing or neglecting to comply with the provisions of this section shall be fined not exceeding twenty dollars.

In Common Council, Aug. 16, 1888.

Passed to be ordained.

E. B. CONANT, President.

In Board of Aldermen, Aug. 21, 1888.

Passed to be ordained.

A. M. CHADWICK, Chairman.

Approved Aug. 21, 1888.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-eight.

AN ORDINANCE TO AUTHORIZE THE NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY OF MASSACHUSETTS, ITS SUCCESSORS AND ASSIGNS, TO LAY AND MAINTAIN UNDERGROUND CONDUITS, CABLES, WIRES, AND MANHOLES, AND TO ERECT AND MAINTAIN DISTRIBUTING POLES.

Be it Ordained, by the City Council of the City of Lowell, as follows :

SECTION 1. The New England Telephone and Telegraph Company of Massachusetts, its successors and assigns, are hereby authorized to construct and maintain underground conduits, cables, and wires for the conduct of its business in the following streets: Middle Street, Market Street, Central Street, from Merrimack to Tower's Corner, and Middlesex Street, from Tower's Corner to Thorndike Street; to construct therein and maintain the necessary manholes and house connections; also to erect and maintain distributing poles at the termini of such said conduits, and at suitable distributing points; all work to be done in accordance with the Regulations hereinafter provided.

SECT. 2. The said company shall lay conduits in any other street or streets which may be hereafter designated by the Board of Aldermen, and in which street or streets said company maintains or wishes to maintain electric cables or lines of wire, to the number of 100 or more conductors, and within which said streets the Board of Aldermen may deem it for the interest of the City to have said wires placed underground,

and within such reasonable time in each case as the Board of Aldermen shall determine.

Wires to the number of 50 or more in any street shall be placed in aerial cable, if so ordered by the Board of Aldermen.

SECT. 3. The said conduits shall be of suitable kind and construction, such as are in successful operation for similar purpose in other cities, and the work shall be done in a thorough manner, and to the approval of the Board of Aldermen, or any officer of the City whom the Board may select. The said distributing and other poles shall be of such height and other dimensions, and of such form and material, as shall be satisfactory to the Board of Aldermen, and shall be subject to their approval or the approval of any person or persons whom the Board of Aldermen may select.

SECT. 4. The surface of a street shall not be disturbed for the purpose of laying, repairing, or removing wires or conduits, or erecting or removing distributing or other poles, without a permit from the Board of Aldermen indicating the time, manner, and place of opening such street, and the time within which such work shall be completed.

But this provision shall not be construed as requiring any permit for the opening of manholes for the purpose of drawing in, removing, or repairing wires and cables.

SECT. 5. When an opening is made in a street for any of the purposes aforesaid, the portion of the street so opened shall be restored to a condition satisfactory to the City Engineer and Surveyor of Highways, and shall be kept in such condition for one year thereafter, and if not so restored and maintained by said company, said Surveyors of Highways may cause the same to be done at the expense of said company.

SECT. 6. The said company, in laying, repairing, or removing its wires or conduits, shall not disturb or in any way interfere with any gas or water pipes, or sewers, or pipes therewith connected.

SECT. 7. In case the City of Lowell hereafter finds it necessary to construct or enlarge sewers or other public works in streets where conduits are laid, which shall require the removal or changing the location of said conduit, said removing or changing shall be at the expense of said company.

SECT. 8. The said company shall commence the work contemplated herein within six months from the passage of this ordinance, unless restrained by process of law, and shall continue the said work with reasonable diligence until suitable conduits have been laid in such of the above named streets as said parties may elect, or the Board of Aldermen may require under the provisions of Section 2.

SECT. 9. The said company shall not remove its conduits unless permitted to do so by the Board of Aldermen.

SECT. 10. The said company shall remove its conduits to other suitable locations whenever ordered to do so by the Board of Aldermen.

SECT. 11. No permit shall be granted, or, if granted, shall be valid, to disturb the surface of a street for any of the purposes aforesaid until said company has executed an agreement in a form satisfactory to the City Solicitor, providing:

First: That in every underground conduit constructed by the company sufficient and necessary space shall be reserved, free of expense, for the use of the fire, police, and other signal wires belonging to the city, and used exclusively for municipal purposes, and that the fire and police departments, by their electrical superintendent, shall be allowed access to said conduits at all times, and that said departments shall be allowed facilities and privileges in putting in or taking out wires equal in all respects to those of the said Telephone and Telegraph Company.

Second: That said company will indemnify and save the City harmless against all damages, costs, and expense whatsoever to which the City may be subjected in consequence of the acts or neglects of said company, its agents, or servants,

or in any manner arising from the rights and privileges granted it by the City.

Third: In addition to the aforesaid agreement, said company shall, before a street is disturbed for the laying of its wires or conduits, execute a bond, with surety or sureties in a penal sum of not less than \$10,000, conditioned to fulfil all its said agreements with the City, and its duties under this ordinance, and a new bond of like import may at any time be required of said company by the City Council, which new bond shall be a strengthening bond, unless the surety or sureties on former bonds are expressly released from further liability by vote of the City Council.

In Common Council, Dec. 31, 1888.

Passed to be ordained.

E. B. CONANT, President.

In Board of Aldermen, Jan. 4, 1889.

Passed to be ordained.

A. M. CHADWICK, Chairman.

Approved Jan. 4, 1889.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-eight.

AN ORDINANCE AMENDING CHAPTER THIRTY-NINE OF THE REVISED ORDINANCES.

Be it Ordained, by the City Council of the City of Lowell, as follows:

SECTION 1. Sect. 1 of Chap. 39 of the City Ordinances is hereby amended so as to read as follows:

SECTION 1. The members of the Lowell Water Board shall be five in number, and shall be chosen in the manner following: In the month of January or February next, there shall be chosen by concurrent vote of both branches of the City Council three citizens of Lowell, neither of whom shall hold any other municipal office, to be members of said Water Board, one of whom shall hold office for four years and one for three years from the second Monday of March next following their election; and one to hold office from the first Monday of May next following his election until the second Monday in March in the year 1891, or until their successors are chosen.

In the month of January or February in the year 1890 there shall be chosen by concurrent vote of both branches of the City Council one citizen of Lowell, who shall hold no other municipal office, to be a member of said Water Board, to serve from the first Monday of May next following his election until the second Monday of March in the year 1894, or until his successor is chosen; and in the month of January or February in the year 1891, and annually thereafter, there shall be chosen, in

the manner above provided, one citizen of Lowell who shall hold no other municipal office, to be a member of said Water Board, to serve for the term of four years from the second Monday of March next following his election, or until his successor is chosen. In the month of January next, and annually thereafter in said month, there shall be chosen by concurrent vote of both branches of the City Council one member of the Board of Aldermen to be a member of said Water Board, and who shall enter upon his duties as member of said Board forthwith, and hold office during the remainder of the municipal year in which he is elected, or until his successor is elected.

The members elected to said Board from the Board of Aldermen and the citizens at large shall at all times be subject to removal by the City Council. The acceptance of any other municipal office by a member of said Board shall be deemed to constitute a vacancy in said Board. Vacancies for any cause may be filled at any time by the City Council.

SECT. 2. Sect. 2 of the said Chap. 39 is hereby amended so as to read as follows:

SECT. 2. On the second Monday of March, in the year 1889, the members of the said Water Board shall meet and organize by choosing one of their number, elected from the citizens, to be president of the Water Board, whose term of office shall be from the first Monday of May in said year until the second Monday of March, 1890, or until his successor is chosen.

And on the second Monday of March, 1890, and annually thereafter, the members of said Water Board shall meet and organize by choosing one of their number, elected from the citizens, to be president of the Board, who shall hold his office for one year from the time of his election, or until his successor is chosen. He shall receive such compensation for his services as president as the City Council may from time to time determine. They shall, in the month of March, annually,

choose a Superintendent of Water Works, who shall hold his office from April 1st in the year of his election, until another is elected in his place, unless sooner removed. He shall receive such compensation as superintendent as the City Council may from time to time determine. They shall, in the month of June, annually, choose a Clerk, who shall also be secretary of the Board, and who shall hold his office for one year, or until his successor is chosen. The superintendent and clerk may for cause be removed at any time by the Board. Neither the superintendent nor the clerk shall be members of the Water Board. Said Board may also make such rules and regulations for their own government and for the government of all subordinate officers, by them appointed, as they may deem expedient, not inconsistent with the Statute Law or City Ordinances.

SECT. 3. This ordinance shall take effect upon its passage, and all ordinances, or parts of ordinances, inconsistent therewith are hereby repealed.

In Common Council, Jan. 4, 1889.

Passed to be ordained.

E. B. CONANT, President.

In Board of Aldermen, Jan. 4, 1889.

Passed to be ordained.

A. M. CHADWICK, Chairman.

Approved Jan. 4, 1889.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-nine.

AN ORDINANCE AMENDING AN ORDINANCE AMENDING CHAPTER
THIRTY-NINE OF THE REVISED ORDINANCES.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That the ordinance amending Chap. 39 of the Revised Ordinances be, and the same hereby is, amended as follows: By striking out the word "next" in the twenty-eighth line and inserting in place thereof the words and figures "or February, 1889," and by striking out the word "month" in the twenty-ninth line and inserting the word "months" in place thereof.

In Common Council, Feb. 19, 1889.

Passed to be ordained.

THOMAS J. SPARKS, President *pro tem*.

In Board of Aldermen, Feb. 19, 1889.

Passed to be ordained.

R. M. BOUTWELL, Chairman.

Approved Feb. 19, 1889.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-nine.

AN ORDINANCE RELATING TO CHAPTER TWENTY, SECTION ONE
OF THE REVISED ORDINANCES.

Be it Ordained, by the City Council of the City of Lowell, as follows:

SECTION 1. Sect. 1 of Chap. 20 of the City Ordinances is hereby ordained to read as follows:

SECTION 1. The Fire Department shall consist of a Chief Engineer, four Assistant Engineers, and as many engine-men, hose-men, hook and ladder men, and other persons, to be divided into companies, as the number of engines and the other fire apparatus of the City shall from time to time require; the Chief Engineer shall be appointed by the Mayor and Aldermen, in the month of March or April, and whenever a vacancy occurs, and he shall enter upon the discharge of the duties of said office on the first day of May in the year in which appointed, if appointed for a full term prior to May of any year, and he shall hold said office for the term of three years from said first day of May, or until he is removed; and if appointed after the first day of May of any year he shall enter upon the discharge of the duties of said office forthwith, and shall continue therein until the expiration of the full term as existing at the time of his said appointment, or until removed; and the appointment of said Assistant Engineers shall be made by the Mayor and Aldermen in the month of March or April, annually, and whenever a vacancy occurs; and they shall hold

their respective offices for the term of one year from the first day of May succeeding their appointment, or until others are chosen; all other members of the Fire Department shall be nominated by the Board of Engineers, and their names sent to the Mayor and Aldermen, and when by them appointed they shall be members of the Fire Department; *provided*, that vacancies may be filled at any time, and that the Mayor and Aldermen may at any time remove any or all of said officers or members; except that the Chief Engineer shall not be removed without a hearing and cause shown thereat. No person shall be appointed a member of the Fire Department who does not sustain a good moral character, and who is not a citizen of the City of Lowell.

SECT. 2. This ordinance shall take effect upon its passage, and Sect. 1 of Chap. 20 of the City Ordinances, together with each and every amendment thereto, is hereby repealed.

In Common Council, June 11, 1889.

Passed to be ordained.

WILLIAM E. WESTALL, President.

In Board of Aldermen, June 14, 1889.

Passed to be ordained.

JOHN H. FULLER, Chairman *pro tem*.

Approved June 22, 1889.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-nine.

AN ORDINANCE AMENDING CHAPTER ONE OF THE REVISED
ORDINANCES.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That Sect. 6 of Chap. 1 of the Revised Ordinances be, and the same is, hereby amended by striking out after the word "and" in the eleventh line the words "one member of the Lowell Water Board elected from the Common Council," and inserting instead thereof the words "the Joint Standing Committee on Commons."

In Common Council, Jan. 3, 1890.

Passed to be ordained.

THOMAS J. SPARKS, President *pro tem*.

In Board of Aldermen, Jan. 3, 1890.

Passed to be ordained.

R. M. BOUTWELL, Chairman.

Approved Jan. 3, 1890.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety.

AN ORDINANCE AMENDING CHAPTER FIVE OF THE ORDINANCES
OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows :

That Sect. 12 of Chap. 5 of the Ordinances of the City of Lowell be, and the same hereby is, amended as follows, to wit: By inserting after the word "Street," and before the word "provided," in the eleventh line of said section, the words "nor on either side of Bridge street north of Merrimack river, south of Seventh or West Sixth streets for a distance of seventy-five feet back from either line of said Bridge street."

In Common Council, Jan. 3, 1890.

Passed to be ordained.

THOMAS J. SPARKS, President *pro tem*.

In Board of Aldermen, Jan. 3, 1890.

Passed to be ordained.

R. M. BOUTWELL, Chairman.

Approved Jan. 3, 1890.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety.

AN ORDINANCE PROVIDING FOR THE ELECTION OF ASSESSORS AND
THE APPOINTMENT OF ASSISTANT ASSESSORS.

Be it Ordained, by the City Council of the City of Lowell, as follows:

SECTION 1. There shall be chosen by concurrent vote of both branches of the City Council, in the month of April, May, or June of the current year, three Assessors, one to serve for a term beginning with the date of his election and ending the first Monday of January, 1893, one to serve for a term beginning at the date of his election and ending the first Monday in January, 1892, and one to serve for a term beginning at the date of his election and ending the first Monday of January, 1891; and in the month of January or February, 1891, and in each succeeding year thereafter, there shall be elected one Assessor, to serve for the term of three years from the first Monday in January of the year in which he is chosen. In case of a vacancy in the Board of Assessors from any cause, the City Council shall fill said vacancy by electing a member to serve for the remainder of the unexpired term.

SECT. 2. In the month of April, May, or June of the current year there shall be nominated by the Mayor, and confirmed by the Board of Aldermen, one Assistant Assessor from each ward (said Assistant Assessor to be a resident therein), to serve for the remainder of the current year, and in the month of January or February in the year 1891, and in every second year thereafter, there shall be nominated by the Mayor, and confirmed by the Board of Aldermen, one Assistant Assessor, from each ward (said Assistant Assessor to be a resident therein), to serve for the term of two years from the first Monday in January of the year in which they are appointed. In case of a vacancy occurring in the Board of Assistant Assessors, there shall be nominated by the Mayor, and confirmed by

the Board of Aldermen, a member to serve for the remainder of the unexpired term. Said Assistant Assessors shall assist the Assessors in the assessment of taxes, and in any duties relating to said assessment, and shall at all times act under the direction and control of the Assessors.

Said Assessors and Assistant Assessors to be sworn to a faithful performance of their duties.

Said Assessors shall be removable at the pleasure of the City Council, and said Assistant Assessors at the pleasure of the Board of Aldermen.

SECT. 3. Sect. 1 of Chap. 3 of the Charter and Ordinances, and all ordinances and parts of ordinances inconsistent with this ordinance, are hereby repealed.

In Common Council, April 22, 1890.

Passed to be ordained.

ALONZO G. WALSH, President.

In Board of Aldermen, April 29, 1890.

Passed to be ordained.

JOHN H. FULLER, Chairman.

Approved May 1, 1890.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety.

AN ORDINANCE AMENDING CHAPTER THIRTY-THREE OF THE
ORDINANCES OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That Sect. 15 of Chap. 33 of the Ordinances of the City of Lowell be, and the same hereby is, amended by striking out the words "Board of Aldermen" wherever they occur and inserting instead thereof the words "Superintendent of Streets."

In Common Council, May 20, 1890.

Passed to be ordained.

ALONZO G. WALSH, President.

In Board of Aldermen, May 27, 1890.

Passed to be ordained.

JOHN H. FULLER, Chairman.

Approved June 2, 1890.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the year Eighteen Hundred and Ninety-one.

AN ORDINANCE EXTENDING THE LIMITS OF THE FIRE DISTRICT
OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That the limits of the Fire District of the City of Lowell be, and the same are hereby extended, as follows: Beginning at the junction of the middle line of Appleton street with the middle line of South street, thence southerly along the middle line of South street to the middle line of Summer street, thence easterly along the middle of Summer and Charles streets to the middle line of Central street, thence northerly along the middle line of Central street to Appleton street, thence westerly along the middle line of Appleton street to the point of beginning.

In Common Council, April 12, 1891.

Passed to be ordained.

THOMAS J. SPARKS, President.

In Board of Aldermen, May 19, 1891.

Passed to be ordained.

JEREMIAH CROWLEY, Chairman.

Approved June 8, 1891.

GEORGE W. FIFIELD, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-one.

AN ORDINANCE REPEALING SECTION SIX OF CHAPTER NINE OF
THE REVISED ORDINANCES OF 1883.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That Sect. 6 of Chap. 9 of the Revised Ordinances of 1883,
be, and the same hereby is, repealed.

In Common Council, May 12, 1891.

Passed to be ordained.

THOMAS J. SPARKS, President.

In Board of Aldermen, May 19, 1891.

Passed to be ordained.

JEREMIAH CROWLEY, Chairman.

Approved June 8, 1891.

GEORGE W. FIFIELD, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-one.
AN ORDINANCE AMENDING CHAPTER FIVE OF THE ORDINANCES
OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That Section Twelve of Chapter Five of the Ordinances of the City of Lowell as amended by an ordinance passed to be ordained and approved Jan. 3, 1890, is further amended by inserting after the words "Bridge street" and before the word "provided" in said ordinance as amended, the following words, "nor of any of the territory enclosed by the following boundary lines," to wit: "Beginning at the junction of the middle line of Hanover street with the middle line of Merrimack street, thence southerly along the middle line of Hanover and Lewis streets to the middle line of Broadway street, thence westerly along the middle line of Broadway street to the middle line of Suffolk street, thence northerly along the middle line of Suffolk street, to the middle line of Merrimack street, thence easterly along the middle line of Merrimack street to the point of beginning."

In Common Council, Nov. 10, 1891.
Passed to be ordained. .

THOMAS J. SPARKS, President.

In Board of Aldermen, Nov. 17, 1891.
Passed to be ordained.

JEREMIAH CROWLEY, Chairman.
Approved Nov. 18, 1891.

GEORGE W. FIFIELD, Mayor.

CITY OF LOWELL.

In the year Eighteen Hundred and Ninety-one.

AN ORDINANCE AMENDING SECTION TWELVE OF CHAPTER FIVE,
ORDINANCES OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows :

That Section Twelve of Chapter Five of the Ordinances of the City of Lowell be, and the same is hereby, amended by inserting after the word "beginning" and before the word "provided" the words "nor on either side of Westford street from the westerly line of Grand street to the easterly line of Royal street, for a distance of fifty feet back from either line of Westford street."

In Common Council, Dec. 10, 1891.

Passed to be ordained.

THOMAS J. SPARKS, President.

In Board of Aldermen, Dec. 10, 1891.

Passed to be ordained.

JEREMIAH CROWLEY, Chairman.

Approved Dec. 11, 1891.

GEORGE W. FIFIELD, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-two.

AN ORDINANCE RELATING TO CHAPTER TWENTY-EIGHT, SECTION
ONE OF THE REVISED ORDINANCES.

Be it Ordained, by the City Council of the City of Lowell, as follows:

Section One of Chapter Twenty-eight of the Revised Ordinances of the City of Lowell is hereby ordained to read as follows:

SECTION 1. In the month of February or March of the year Eighteen Hundred and Ninety-two, and in every third year thereafter, there shall be chosen by concurrent vote of both branches of the City Council a Chief of Police, who shall hold his office for the term of three years from the first Monday of January following his election or until his successor is chosen, or he is removed for cause by the City Council by concurrent vote. And should a vacancy occur from any cause in said office during said term a successor shall be elected in like manner as above provided, who shall hold his office for the remainder of the unexpired term.

This Ordinance shall take effect upon its passage and Section One of Chapter Twenty-eight of the Revised Ordinances of the City of Lowell is hereby repealed.

In Common Council, Feb. 9, 1892.

Passed to be ordained.

THOMAS J. SPARKS, President.

In Board of Aldermen, Feb. 9, 1892.

Passed to be ordained.

A. A. HAGGETT, Chairman.

Approved Feb. 9, 1892.

GEORGE W. FIFIELD, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-two

AN ORDINANCE AMENDING AN ORDINANCE ENTITLED, "AN ORDINANCE AMENDING THE ORDINANCES OF THE CITY OF LOWELL AND DEFINING AND LIMITING THE POWERS OF STANDING COMMITTEES."

Be it Ordained, by the City Council of the City of Lowell, as follows:

SECTION 1. That Section twenty-three of an Ordinance entitled, "An Ordinance amending the Ordinances of the City of Lowell and defining and limiting the powers of Standing Committees," be, and the same is hereby, amended by striking out the word "five" in the eighth line of said section and inserting instead thereof, the word "twenty," and by striking out the word "ten" in the tenth line of said section and inserting instead thereof the word "twenty."

In Common Council, May 17, 1892.

Passed to be ordained.

THOMAS J. SPARKS, President.

In Board of Aldermen, May 24, 1892.

Passed to be ordained.

A. A. HAGGETT, Chairman.

Approved, May 31, 1892.

GEORGE W. FIFIELD, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-two.

AN ORDINANCE AMENDING SECTION TWENTY-ONE OF CHAPTER
THIRTY-NINE OF THE REVISED ORDINANCES.

Be it Ordained, by the City Council of the City of Lowell, as follows :

That Section Twenty-one of Chapter Thirty-nine of the Revised Ordinances be, and the same is hereby, amended by adding to said section the following words: "Provided that the Department of Commons shall be furnished with such water as is required therein free of charge."

In Common Council, July 26, 1892.

Passed to be ordained.

THOMAS J. SPARKS, President.

In Board of Aldermen, Aug. 5, 1892.

Passed to be ordained.

A. A. HAGGETT, Chairman.

LOWELL, September 17, 1892.

The above Ordinance was presented to the Mayor August 25, 1892, and not having been returned within ten days, the same is in force.

MICHAEL J. DOWD, City Clerk.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-two.

AN ORDINANCE AMENDING CHAPTER FIVE OF THE ORDINANCES
OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That Section 12 of Chapter 5 of the Ordinances of the City of Lowell amended by an ordinance approved January 3, 1890 be further amended by striking out the words "Seventh or West Sixth," in said amendment, and inserting instead thereof the words "Fifth or West Fifth," so that the said amendment shall read as follows: "Nor of either side of Bridge Street north of Merrimack River, south of Fifth or West Fifth Streets, for a distance of seventy-five feet back from either line of said Bridge Street."

In Common Council, April 26, 1892.

Passed to be ordained.

THOMAS J. SPARKS, President.

In Board of Aldermen, April 29, 1892.

Passed to be ordained.

ALBERT A. HAGGETT, Chairman.

Approved May 2, 1892.

GEORGE W. FIFIELD, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-three.

AN ORDINANCE RELATING TO AND CONCERNING CONTRACTS FOR
PRINTING AND ADVERTISING OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows :

Unless ordered by the City Council or Board of Aldermen, all contracts for or concerning any of the city printing or advertising shall be made by or under the direction of the Committee having in charge the department for which said printing or advertising is performed, and payable from the appropriation made for the use of said department; provided, however, that any printing or advertising required for any office or department for which no appropriation is made shall be done under the direction and control of the Joint Standing Committee on Printing and be paid for from an appropriation made for that purpose and under the control of said committee.

Any ordinance or part of ordinance inconsistent herewith is hereby repealed.

In Common Council, March 14, 1893.

Passed to be ordained,

WILLIAM T. BENSON, President.

In Board of Aldermen, April 4, 1893.

Passed to be ordained.

WILLIAM E. WESTALL, Chairman.

Approved April 4, 1893.

JOHN J. PICKMAN, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-three.

AN ORDINANCE AMENDING CHAPTER NINE OF THE REVISED
ORDINANCES OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That Chapter 9 of the Revised Ordinances of the City of Lowell be amended by adding after section 5, the following section:

SECT. 6. The Treasurer shall receive and have the care and custody of all sums of money paid by persons for the perpetual care of lots in any of the City Cemeteries, and give the vouchers of the City therefor, and moneys so received shall constitute a special fund to be known as the "Cemetery Fund for the perpetual care of lots."

He shall notify the Superintendent of the Cemetery of all such payments, together with a description of the lots and graves on account of which such payments are made, and annually at such time as the Trustees of Public Burial Grounds request, shall pay over to them four per centum as interest upon all sums so paid to and receipted by him. He shall invest the moneys of this fund in securities in which by law the funds of savings banks may be invested, and pay the amount of interest realized thereon into the City Treasury.

SECT. 7. This Ordinance shall take effect upon its passage.

[In Common Council, June 6. 1893.

Passed to be ordained.

WILLIAM T. BENSON, President.

In Board of Aldermen, June 27, 1893

Passed to be ordained.

WILLIAM E. WESTALL, Chairman.

Approved June 29, 1893.

JOHN J. PICKMAN, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-three.

AN ORDINANCE AMENDING CHAPTER TWENTY-SIX OF THE ORDINANCES OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That Chapter Twenty-six of the Ordinances of the City of Lowell, entitled "Overseers of the Poor," be amended to read as follows:

SECTION 1. The Board of Overseers of the Poor shall provide two or more suitable rooms, located in a central part of the City, to be used as a dispensary for the purpose of furnishing medicines and medical and surgical treatment free to the sick poor of the City of Lowell. Said rooms shall be suitably furnished and arranged for consulting and operating rooms, and for keeping drugs and medicines. Said rooms shall be kept open for dispensing medicines and receiving patients at least six hours each day, Sundays excepted, and on Sundays for such time as the Board of Overseers of the Poor may direct.

SECT. 2. Said Overseers of the Poor shall cause to be procured and kept for use in such rooms such drugs, medicines, chemicals, and surgical appliances as may be necessary for the purpose for which said dispensary is established.

SECT. 3. Said Overseers of the Poor shall, during the month of January in each year, appoint six physicians, members of the Middlesex North District Medical Society, one for each ward,

who shall attend to all cases of sickness upon the receipt of an order from the Secretary of the Overseers of the Poor. Said Board of Physicians shall also constitute a board of consulting physicians, one of whom shall be in attendance at the dispensary at least one hour each day. Said board may make such rules and regulations for its own government, the management of said dispensary, the treatment of patients, the dispensing of medicines, and all other matters relating thereto, as it may deem advisable, subject to the approval of the Overseers of the Poor, who may at any time annul, alter, or amend said rules and regulations.

SECT. 4. Said Overseers of the Poor shall, at their last regular meeting in January each year, appoint a competent clerk to remain at the dispensary during such time as the Overseers of the Poor shall require. Said clerk shall compound and dispense such medicines as may be regularly prescribed, and perform such other duties as may be required of him by the Overseers of the Poor.

The compensation of said clerk and board of physicians shall be fixed by the Overseers of the Poor. All vacancies in said board of physicians or of said clerk may be filled at any time by said Overseers of the Poor, in the same manner, and subject to the same restrictions as herein provided for their appointment, and said clerk or any member of said board of physicians may be removed at any time by said Overseers of the Poor, for cause.

SECT. 5. Any physician residing or practicing in Lowell, who may be called upon to prescribe medicines for sick persons who are residents of the City of Lowell, and find that such persons are unable to pay for such medicines, may send such prescription to the Secretary of the Overseers of the Poor, who, if satisfied that such person has a settlement in Lowell, may endorse said prescription, and the medicine prescribed shall be furnished at the dispensary free of charge. All such prescriptions shall be preserved by the clerk and recorded in a

book to be kept for that purpose. All applications for medical treatment or medicines at the dispensary must be made to the Secretary of the Overseers of the Poor at his office in City Hall.

SECT. 6. The Overseers of the Poor shall furnish to undertakers, when required to bury a pauper, a suitable coffin, neatly varnished or stained, properly lined, and furnished with metallic handles or bars.

SECT. 7. The Overseers of the Poor shall, in the month of December, annually make a report to the City Council of the condition of the pauper department, with so much of the report of their Secretary, the Superintendent at the City Farm, and the Dispensary Physicians as they may deem advisable.

SECT. 8. Any ordinance or part of ordinance inconsistent herewith is hereby repealed.

In Common Council, Sept. 12, 1893.

Passed to be ordained.

WILLIAM T. BENSON, President.

In Board of Aldermen, Sept. 19, 1893.

Passed to be ordained.

WILLIAM E. WESTALL, Chairman.

Approved Sept. 20, 1893.

JOHN J. PICKMAN, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-three.

AN ORDINANCE RELATING TO CHAPTER SIX, SECTIONS FOUR,
NINE, AND ELEVEN OF THE REVISED ORDINANCES.

Be it Ordained, by the City Council of the City of Lowell, as follows :

Sections 4, 9, and 11 of Chap. 6 of the Revised Ordinances of the City of Lowell are hereby ordained to read as follows :

SECT. 4. Every carriage licensed as aforesaid shall be conspicuously marked with the number assigned to it by the Board of Aldermen, upon its lanterns and lights in figures not less than one and a half inches long, and the name of the owner and the driver and the number of the carriage, together with the rates of fare, shall be conspicuously posted on a printed card in every carriage licensed as aforesaid.

SECT. 9. The following places are appointed as public stands for hackney coaches, cabs, and other carriages for passengers viz.: The south side of the west end of William street, from Central street; the west side of Anne street, from Merrimack street; the north side of Jackson street, from the Boston and Lowell Railroad.

SECT. 11. The Board of Aldermen may from time to time grant licenses to such persons, and upon such terms, as they may deem expedient, to employ or use any wagon, cart, truck,

sleigh, sled, or other vehicle which may be necessary for the conveyance from place to place within the City for hire, of any wood, coal, lumber, stone, brick, sand, gravel, clay, dirt, rubbish, goods, wares, furniture, or merchandise, and the Board of Aldermen may designate the public stand within the City which said vehicles may occupy.

Every person licensed as aforesaid shall cause his name to be placed in plain, legible words on any such vehicle he shall use, and every such license, unless sooner revoked, shall expire on the first day of April next after the date thereof.

The following places are appointed as public stands for the vehicles mentioned in this section, to wit: The south side of William street in the rear of coaches, cabs, and other carriages for passengers; the rear of the Police Station on Market street; the west side of Anne street in the rear of coaches, cabs, and other carriages for passengers; the north side of the west end of Jackson street from Revere street to the rear of cabs, coaches, and other carriages for passengers.

Provided, however, that the number of carriages or vehicles mentioned in said Sect. 9, and the wagons and vehicles mentioned in this Section, shall be limited under the direction of the Chief of Police and the Committee on Licenses, so as not to interfere with public travel or safety.

No person so licensed as aforesaid shall employ or use any wagon, cart, truck, sleigh, sled, or other vehicle for hire which may be necessary for the conveyance from place to place within the City of any wood, coal, lumber, stone, brick, sand, gravel, clay, dirt, rubbish, goods, wares, furniture, or merchandise.

Any person who shall offend against any of the provisions of the foregoing sections shall forfeit and pay for each offence a sum not exceeding twenty dollars.

This ordinance shall take effect upon its passage, and Sec-

tions 4, 9, and 11 of Chap. 6 of the Revised Ordinances of the City of Lowell are hereby repealed.

In Common Council, Oct. 24, 1893.

Passed to be ordained.

WILLIAM T. BENSON, President.

In Board of Aldermen, Nov. 13, 1893.

Passed to be ordained.

WILLIAM E. WESTALL, Chairman.

Approved Nov. 13, 1893.

JOHN J. PICKMAN, Mayor.

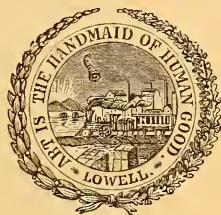
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MANUAL TRAINING ROOM AT OLD CITY HALL.

SIXTY-EIGHTH
ANNUAL REPORT
OF THE
SCHOOL COMMITTEE
OF THE
CITY OF LOWELL, MASS.,
TOGETHER WITH THE
THIRTIETH ANNUAL REPORT
OF THE
Superintendent of Public Schools,
1893.



LOWELL, MASS.
BUTTERFIELD PRINTING AND BINDING CO.
1894.

CITY OF LOWELL.

OFFICE OF THE SCHOOL COMMITTEE.

LOWELL, MASS., December 27, 1893.

At a meeting of the School Committee held December 27, 1893, it was unanimously voted that the Committee on Reports of the School Committee, other Standing Committees, and the Superintendent of Schools, have leave to print their annual reports for the year 1893.

In accordance therewith the reports are hereby submitted.

A. K. WHITCOMB, Secretary.

ORGANIZATION

OF THE

SCHOOL COMMITTEE, 1893.

JOHN J. PICKMAN, Chairman.

GEORGE M. HARRIGAN, Vice-Chairman.

ARTHUR K. WHITCOMB, Secretary.

JOHN J. PICKMAN, Mayor.					
WILLIAM T. BENSON, President of the Common Council, 152 Lawrence Street.					
Ward 1.—PATRICK KEYES, Jr., 213 Market Street.	Term expires 1894				
LAWRENCE CUMMINGS, corner Seventh and Read Streets.					
" 2.—WILLIAM H. LATHROP, 15 First Street.					
FREDERICK T. WALSH, N. E. side Eleventh Street.					
" 3.—EDWARD GALLAGHER, Sun Office.					
GEORGE M. HARRIGAN, Office of Lowell Trust Co.					
" 4.—RANSOM A. GREENE, 25 Walker Street.					
FRED WOODIES, Office of L. M. Shop.					
" 5.—ANDREW G. SWAPP, 187 Pawtucket Street.					
WALTER COBURN, 19 Congress Street.					
" 6.—JOHN H. McNABB, 63 Church Street.					
THOMAS P. BOULGER, 9 Everett Street.					

Ex-Officiis.

Term expires 1894

" " 1893

" " 1894

" " 1893

" " 1894

" " 1893

" " 1894

" " 1893

" " 1894

" " 1893

" " 1894

" " 1893

STANDING COMMITTEES.

- ON ACCOUNTS.—The Mayor, Messrs. Harrigan, Woodies, Boulger, McNabb.
- ON SCHOOL-HOUSES AND HYGIENE.—Messrs. Cummings, Gallagher, Lathrop, Boulger, McNabb.
- ON TEACHERS AND TRAINING SCHOOL.—Messrs. Swapp, Greene, Gallagher, Coburn, Keyes.
- ON REPORTS AND PRINTING.—Messrs. Lathrop, Greene, Gallagher, Walsh, McNabb.
- ON BOOKS AND SUPPLIES.—Messrs. Harrigan, Woodies, Coburn, Boulger, Lathrop, McNabb.
- ON SALARIES.—The Mayor, Messrs. Cummings, Greene, Coburn, Walsh.
- ON PENMANSHIP AND DRAWING.—Messrs. Woodies, Cummings, Walsh, Harrigan, McNabb.
- ON MUSIC.—Messrs. Keyes, Woodies, Greene, Harrigan, Boulger.
- ON EVENING SCHOOLS.—Messrs. Greene, Cummings, Swapp, Keyes, Walsh.
- ON RULES AND REGULATIONS.—Messrs. Boulger, Swapp, Cummings, Walsh, McNabb.
- ON MILITARY INSTRUCTION.—Messrs. Walsh, Boulger, Gallagher, Harrigan, Lathrop.
- ON PRIVATE SCHOOLS.—The Mayor, Messrs. Swapp, Gallagher, Lathrop, Walsh.
- ON SEWING.—Messrs. Gallagher, Keyes, Harrigan, Coburn, Woodies.
-

ASSIGNMENT OF SCHOOLS.

- THE MAYOR.—Reform School.
- MR. BENSON.—Reform, Middlesex Village.
- MR. KEYES.—High, Reform, Worthen Street, Cheever Street.
- MR. CUMMINGS.—High, Green, Morrill.
- MR. LATHROP.—Varnum, Fourth Street.
- MR. WALSH.—High, Kirk Street, West Sixth Street, Tenth Street, Lakeview Avenue.
- MR. GALLAGHER.—London Street, Weed Street, Cottage Street, Chapel Street.
- MR. HARRIGAN.—High, Butler, Agawam Street, Lyon Street.
- MR. GREENE.—High, Edson, Eliot, Dover Street, Powell Street.
- MR. WOODIES.—Highland, Franklin, Howard Street, Grand Street.
- MR. SWAPP.—High, Bartlett, Cabot Street, School Street.

MR. COBURN.—High, Pawtucket, Mammoth Road, Cross Street, Plain Street, Varnum Avenue.

MR. McNABB.—High, Charles Street, Central Street, Ames Street, Carter Street.

MR. BOULGER.—Moody, Pond Street, High Street, Fayette Street, Sycamore Street.

HIGH SCHOOL.—Messrs. Coburn, Keyes, Cummings, Walsh, Harrigan, Greene, Swapp, McNabb.

A. K. WHITCOMB, Superintendent of Public Schools.

Office in City Government Building.

OFFICE HOURS.—One hour after the forenoon session of the schools, and from 2 to 3 o'clock on Saturday afternoon.

JOHN A. SMITH, Supervisor of Evening Schools.

TRUANT COMMISSIONERS.

BICKFORD LANG. JAMES KELLY. JOHN F. WILLIAMS.

Office in City Government Building.

OFFICE HOURS.—Saturday, 2 to 3 o'clock P. M. Other days, 4 to 5 o'clock P. M., except during July and August, when the office will be open from 9 to 10 o'clock A. M.

ORGANIZATION

OF THE

SCHOOL COMMITTEE, 1894.

JOHN J. PICKMAN, Chairman.

Vice-Chairman.

ARTHUR K. WHITCOMB, Secretary.

JOHN J. PICKMAN, Mayor.	}	<i>Ex-Officiis.</i>	
THOMAS J. SPARKS, President of the Common Council, 59 Elm Street.			
Ward 1.—PATRICK KEYES, JR., 511 Market Street.	Term expires	1894	
THOMAS J. MULLIGAN, Sun Office.	"	"	1895
" 2.—WILLIAM H. LATHROP, 21 First Street.	"	"	1894
WILLIAM D. BROWN, 2 P. O. Block.	"	"	1895
" 3.—EDWARD GALLAGHER, Sun Office.	"	"	1894
GEORGE M. HARRIGAN, Office of Lowell Trust Co.	"	"	1895
" 4.—RANSOM A. GREENE, 352 Walker Street.	"	"	1894
FRED WOODIES, Office of L. M. Shop.	"	"	1895
" 5.—ANDREW G. SWAPP, 307 Pawtucket Street.	"	"	1894
WALTER COBURN, 19 Congress Street.	"	"	1895
" 6.—JOHN H. McNABB, 167 Church Street.	"	"	1894
THOMAS P. BOULGER, 115 Central Street.	"	"	1895

STANDING COMMITTEES.

- ON ACCOUNTS.—The Mayor, Messrs. Harrigan, Woodies, Boulger, Swapp.
- ON SCHOOL-HOUSES AND HYGIENE.—Messrs. Boulger, Gallagher, Lathrop, Mulligan, McNabb.
- ON TEACHERS AND TRAINING SCHOOL.—Messrs. Swapp, Greene, Gallagher, Coburn, Boulger.
- ON REPORTS AND PRINTING.—Messrs. Gallagher, Greene, Mulligan, Brown, McNabb.
- ON BOOKS AND SUPPLIES.—Messrs. Harrigan, Coburn, Boulger, Woodies, McNabb, Lathrop.
- ON SALARIES.—The Mayor, Messrs. Brown, Mulligan, Coburn, Greene.
- ON PENMANSHIP AND DRAWING.—Messrs. Woodies, Harrigan, Brown, Mulligan, McNabb.
- ON MUSIC.—Messrs. Keyes, Greene, Harrigan, Woodies, Boulger.
- ON EVENING SCHOOLS.—Messrs. Greene, Swapp, Keyes, Brown, Harrigan, McNabb.
- ON RULES AND REGULATIONS.—Messrs. Mulligan, Swapp, Boulger, Brown, Lathrop.
- ON MILITARY INSTRUCTION.—Messrs. Lathrop, McNabb, Brown, Boulger, Coburn.
- ON PRIVATE SCHOOLS.—The Mayor, Messrs. Swapp, Brown, Harrigan, Boulger.
- ON SEWING.—Messrs. Coburn, Keyes, Harrigan, McNabb, Woodies.
- ON MANUAL TRAINING.—Messrs. McNabb, Swapp, Keyes, Lathrop, Mulligan.
-

ASSIGNMENT OF SCHOOLS.

- THE MAYOR.—Reform School
- MR. SPARKS.—Reform, Middlesex Village, Agawam Street.
- MR. KEYES.—High, Green, Morrill.
- MR. MULLIGAN.—High, Reform, Worthen Street, Cheever Street.
- MR. LATHROP.—High, Varnum, Fourth Street.
- MR. BROWN.—Kirk Street, West Sixth Street, Tenth Street, Lakeview Ave.
- MR. GALLAGHER.—London Street, Weed Street, Cottage Street, Chapel Street.
- MR. HARRIGAN.—High, Butler, London Street.
- MR. GREENE.—High, Edson, Eliot, Dover Street, Powell Street.
- MR. WOODIES.—Highland, Franklin, Howard Street, Grand Street.
- MR. SWAPP.—High, Bartlett, School Street, Cabot Street.

MR. COBURN.—High, Pawtucket, Mammoth Road, Cross Street, Plain Street, Varnum Avenue.

MR. McNABB.—High, Charles Street, Central Street, Ames Street, Carter Street.

MR. BOULGER.—Moody Street, Pond Street, High Street, Fayette Street, Sycamore Street.

HIGH SCHOOL COMMITTEE.—Messrs. Coburn, Keyes, Mulligan, Lathrop, Harrigan, Greene, Swapp, McNabb.

A. K. WHITCOMB, Superintendent of Public Schools.

Office in City Hall.

OFFICE HOURS.—One hour after the forenoon session of the schools, and from 2 to 3 o'clock on Saturday afternoon.

JOHN A. SMITH, Supervisor of Evening Schools.

TRUANT COMMISSIONERS.

BICKFORD LANG. JAMES KELLY. JOHN F. WILLIAMS.

Office in City Hall.

OFFICE HOURS.—Saturday, 2 to 3 o'clock P. M. Other days, 4 to 5 o'clock P. M., except during July and August, when the office will be open from 9 to 10 o'clock a. m.

REPORTS.

Report of the School Committee.

In presenting their annual report the Committee desire to again express their gratification at the continued prosperity of the schools. In the faithfulness of the teachers and the conduct of the scholars there is always little to criticise and much to commend. It is a pleasure at all times to visit the schools and witness the rapid progress of the pupils, attended as it must be with much diligent study, but also very evidently attended with both pleasure and enthusiasm.

The sanitary condition of the school buildings may be said in general to be good, but many reforms and improvements are constantly needed. Moreover, material is rapidly wearing out and needs replenishing. Such work at present must be done by the City Council, and while they are always willing to grant any needed improvement or repairs, they are often very slow

to act. The truth is that they were not elected to look after the schools particularly and therefore their interest in them is much less than that of the School Committee. This Committee should have complete charge of the school buildings, in order that repairs may be made more promptly. Promptness in such matters is a virtue which cannot easily be overestimated. The health of the pupils, and their comfort likewise, depend upon constant vigilance in the care of those conveniences which modern skill and ingenuity have provided. There is one schoolhouse, for instance, where the water closets have been out of repair and offensive for more than a year. During all this time that member of the Board that has special charge of the school has made frequent requests that the closets might be repaired. More than this, the whole School Committee have, by a special vote, requested that this particular evil might be remedied, and still nothing has been done. The repairs have not been refused at all, they have simply been ignored and neglected.

It is hoped that if we ever have a new city charter, that instrument will contain a provision by which the School Committee shall control the school buildings.

It is frequently remarked by physicians that near-sightedness is increasing among children to a very great degree. No doubt the increase is exaggerated

somewhat by the fact that more attention is given to this subject than was formerly the case. It is much more common nowadays to see children with spectacles, because that method of treatment is advised by oculists, whereas formerly spectacles were only worn by adults. Still, it is undoubtedly true, that the evil of near-sightedness among children is increasing. Many causes are alleged for this, but only two of them seem to demand attention here, namely, the direction of the light as it falls upon the desk, and the height of the desk itself.

The matter of the direction of the light seems to have been overlooked very frequently, in the placing of the desks. All corner rooms receive light from two adjacent sides. The desks in such rooms should be placed so that the light will come from behind the pupil and on his left side. Instead of attending to this principle in arranging the desks, we often find them arranged entirely with reference to regularity and similarity of appearance.

In one instance, in this city, the desks, which had been properly arranged with reference to the eyes of the pupils, were changed so as to be more agreeable to the eyes of the teacher. This is wrong, for the teacher can move about the room, and adapt herself by change of position to the conditions of light, but the

pupils are required by the rules to sit in a specified position, whether it is agreeable to their eyes or not. At very slight expense, if any, the desks in nearly all the rooms can be changed so as to give the pupils a proper light.

Another cause of near-sightedness, it is said, is that the height of the desk is not suited to the size of the pupil. If you go into any schoolroom and ask all the scholars to rise, you will notice a great difference in their height. This is more especially true where boys and girls are mingled, the boys of the same grade of scholarship being taller than the girls who sit with them in the same room. In some rooms we see an effort made to meet the difficulty by having desks of two sizes, but the only adequate remedy is the adjustable desk. This desk, with its corresponding seat, can be raised or lowered to suit the size of the individual pupil. There are also strong arguments for the use of the adjustable desk in the improved position of the body, but the benefits which result from it to the eyes of the scholars are undisputed.

One of the evils connected with our schoolrooms is too infrequent cleaning. Every school ceiling should be whitewashed at frequent intervals and the side walls thoroughly cleansed. The dust which adheres to both walls and ceilings is quite considerable in quantity and

contains material of a more or less unwholesome character. The lungs of children are especially sensitive to the air they breathe. Everyone has noticed the eagerness with which even a young infant will seek the open air. The confinement of children in close rooms is necessarily somewhat deleterious to their health. The confinement is still more deleterious if the rooms themselves are not scrupulously clean.

The Superintendent has taken great pains to bring to the attention of the teachers during the year, by means of addresses from distinguished educators, some of the new methods of teaching. The teachers have responded by a very general attendance and an increased interest in their work. Especial interest has been taken in the study of nature and the teachers have, many of them, expended their own funds in the further pursuit of these studies. As the pupils are very enthusiastic over this form of study, it is hoped that in some simple manner the interest in the study of nature made be made perpetual and pervade all the grades.

The visitors to the schools are almost exclusively parents or immediate friends of the scholars, but the Committee would assure all citizens who are interested in the education of youth that they will be welcome whenever they wish to visit any school of the city.

Our schools are good schools and we have reason to be proud of them. The diligent pupil cannot fail to acquire in them a good education, with a high standard of moral and intellectual character.

WM. H. LATHROP,
RANSOM A. GREENE,
EDWARD GALLAGHER,
FREDERICK T. WALSH,
JOHN H. McNABB.

Report of Evening Schools.

To the School Committee:—

GENTLEMEN:—I have the honor to herewith present the report on Evening Schools, for the year 1893.

The number of Elementary schools opened during the year was eleven,—an increase of one. At the opening of the term in October, the number of pupils wishing to attend was so large that additional rooms were opened in the Varnum and Colburn school buildings, and the rooms vacated by the High school were occupied by the scholars who formerly attended the Worthen Street Primary school building. After the schools were organized, it was found necessary to re-open the rooms in the Worthen street building, to accommodate classes for Greek and Portuguese speaking pupils.

Each year the work of the Evening schools grows wider and more important. Until within a few years the classes for those who were unable to speak the English language were confined wholly to French speaking pupils, but at the present time we have in operation classes for Swedes, Portuguese, Armenians and Greeks. The method employed in teaching the pupils in the several classes is to have one or more English speaking teachers to instruct them, assisted by competent interpreters. The pupils who attend these classes cannot be called illiterate, unless their inability to read and write in the English language would class them as such.

The progress made by the pupils in many cases is worthy of commendation. They come at the beginning of the term with no previous knowledge of the language, yet when the term closes we find that they have been able to finish the Primer and most of the First Reader, and that their work in penmanship is all that could be expected in so short a time.

With all the educational facilities that we possess the fact still remains that we have a great amount of illiteracy among us—a greater amount than the general public is perhaps aware of.

Though we cannot reasonably expect to do away entirely with this illiteracy, yet the bottom principles of our form of government demand that it be reduced to the lowest point possible. By no other means can we hope to reach this desirable end but through our public schools, and there is no department of our school system that can strike so closely to the root of that particular phase of illiteracy which exists in such cities as Lowell and other manufacturing communities, as the Evening School department. It must be remembered that though the mere ability to scrawl one's name and stammer through a sentence of the constitution will permit a man in this state—the necessary period of residence and other conditions being complied with—to cast a ballot even for the chief magistrate of the nation. The structure of civil liberty will never rest safely on so insecure a foundation; it requires a much broader base than this affords. As a general rule increase of knowledge works an increase of intelligence, and the more widely it is dispensed throughout a community the better and more prosperous that community will be.

EVENING HIGH SCHOOL.

With the opening of the [fall term the Lowell Evening High School found itself housed in its new quarters in the new High School building on Kirk and Anne streets.

As year after year goes by and one class after another is graduated by the school, it is our desire to make each in its turn the most successful, giving to each graduate the largest amount of useful knowledge possible.

What we want is to give our young men and young women that which will enable them to most successfully cope with life's work, and to do this there are numerous things necessary, among the most important of which are the matters of the best possible teaching force—the best only being good enough—more careful and advanced preparation on the part of those desiring to become members of the school, and perfect harmony and co-operation among the committee, teachers and scholars.

In a city the size of ours there is a demand, and a growing one, for practical preparation for the business of life, and in this line we suggest that what might be termed a Commercial Course

be introduced in the Evening High School. Let the proposed course cover the year's work in Arithmetic (Advanced and Commercial), Bookkeeping (Single and Double Entry), Shorthand and Typewriting, Lectures on Commercial Law, and such other supplementary work as may be thought proper to combine with those mentioned.

To start out on such a plan and to carry it to a successful close will be no easy task. Teachers that are conversant with the subjects and can handle this line of work are not easily found; pupils that wish to enter upon such a course must realize what they are undertaking and that to complete it, satisfactorily to themselves and the school, more than an elementary preparation will be required. Still, such a course properly planned, under the right management, well supplied in the teaching department, must prove of the greatest benefit to every pupil completing it.

GRADUATING CLASS, 1893.

James Henry Carey.	James Lawrence Laughlin.
Elizabeth Theresa Maguire.	Arthur McCann.
Mary Ellen Verecunda Sheehan.	Robert Stephen Ganley.
Mary Ellen Adie.	John Edward Mullen.
Alice Nannie Townsend.	Michael Henry Cullen.
Jennie Margaret McGregor.	William Herbert Stopherd.
Alice Anne Pucell.	

SHORT HAND (TWO YEARS).

Marietta Margaret McGrade.	Clara Edgerly Marshall.
Georgiana Augusta Kenney.	Edward Marsden McKinley.
Mary Agnes Cooney.	

I again call the attention of the committee to the request made in former reports that none but experienced teachers be given positions in the Evening Schools, and would recommend that in the future no persons shall be appointed unless they hold a certificate of qualification, granted after an examination, as required by the rules of the School Committee. If the Committee on Evening Schools would adopt and enforce a rule to the effect that no application would be considered by them unless the applicant's name was on the list of approved candidates qualified to teach in either the day or evening schools, they would save themselves a great

deal of trouble and annoyance from those who are interested in the persons applying for positions to teach.

To you, gentlemen, I return thanks for your continued courtesy, also to the Superintendent of Schools, whose assistance and advice have made the work of supervision a very pleasant one.

The following summary gives the attendance for the term of 1892-93, also the cost of maintaining the schools for the year 1893:

SUMMARY FOR THE TERM OF 1892-3.

SCHOOLS.	Number of Teachers at Beginning of Term.	Number of Teachers at Close of Term.	Evenings Taught.	Whole number of pupils on time book during term.			Average No. of Pupils belonging to the school.			Average Attendance.			Per Cent of Attendance.
				Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	
High.....	15	13	....	224	170	394	102	95	197	94	68	162	82
Aiken Ave.....	8	6	75	100	80	180	80	60	140	68	50	118	84
Bartlett.....	17	17	75	....	388	388	....	292	292	....	257	257	88
Butler ...	9	7	75	150	45	195	115	30	145	73	18	91	63
Colburn	11	6	75	150	50	200	89	28	117	71	22	93	79
Edson	5	6	75	146	74	220	59	29	88	48	25	73	83
Franklin.....	10	10	74	170	108	278	88	82	170	77	67	144	85
Green.....	23	23	75	757	....	757	447	....	447	403	....	403	90
Moody.....	9	7	75	166	90	256	92	45	137	76	39	115	86
Varnum	7	3	75	97	35	132	59	21	80	51	20	71	89
Worthen.....	6	7	75	....	136	136	...	136	136	....	108	108	80
Totals.....	121	105		1960	1337	3297	1131	818	1949	961	674	1635	83

EXPENSES FOR THE YEAR 1893.

Paid to teachers,	.	.	.	.	.	.	.	.	.	\$16,006.50
janitors,	.	.	.	.	.	.	.	.	.	1,819.00
lighting,	.	.	.	.	.	.	.	.	.	1,586.02
incidentals,	.	.	.	.	.	.	.	.	.	676.04

\$20,087.56

Respectfully submitted,

JOHN A. SMITH,

Supervisor.

Manual Training.

At last, after years of discussion and investigation, the school committee is able to report that a start has been made in manual training. Unlike the course pursued in many other cities and towns, the beginning has not been made in a haphazard way, or under circumstances that admit of doubt as to successful results. It was made with great care and deliberation, and after consultation with such high authorities as Principal Hill and B. F. Eddy, of the Mechanics Arts High School, in Boston; Principal Sayre, of the Philadelphia Manual Training school; the president of Girard College, in Philadelphia, where there is an excellent manual training school; Mr. Chamberlin, of Washington, D. C., together with many other principals and assistants in New York City, Boston, Cambridge, and various other cities in this state.

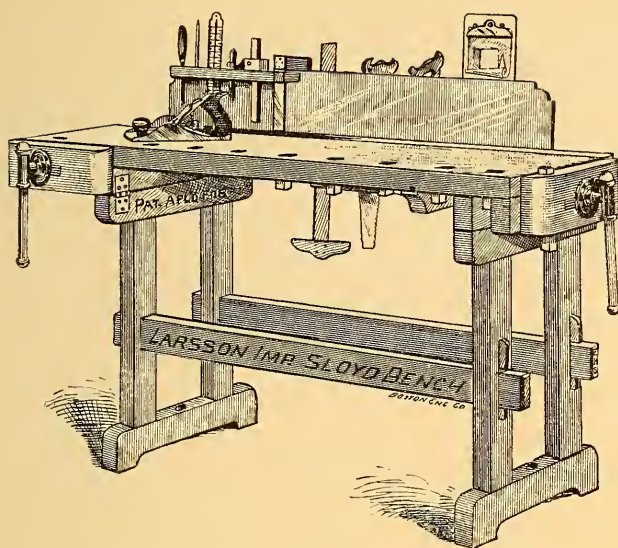
The chief obstacle in the way of introducing manual training into the grammar schools is the law (Chapter 361 of the Acts of 1891) which provides for an advance of the school age where manual training is taught as a branch of study in the schools of cities and towns. To a factory city where there are many poor families, and where boys over fourteen years of age can render valuable assistance in the work of procuring a livelihood, this law is almost a complete barrier to the introduction of manual training. It is needless and injurious so far as manual training is concerned, because this, if properly taught, is as much an educational branch as is arithmetic, drawing or book-keeping. It is adapted to train the eye and the hand, while exercising the judgment, stimulating the energies of body and mind, and giving habits of accuracy, order, foresight and industry.

Manual training in one form or another is taught in all the school grades, but in the higher grammar grades it must take a more practical form than the cutting and folding of paper, or even simple modelling in clay. For this purpose a series of graduated

exercises in woodwork are provided, and the pupil is set to work at a bench like a young mechanic. He is first required to make a working drawing of the model set before him, and this must be finished neatly and accurately according to the dimensions given. When the plan is completed, the pupil takes up the tools required and performs the work. The exercises are so graded that the progress from one to another is easy, and each operation requires the use of certain tools. In each exercise there are, moreover, problems in arithmetic, geometry and mensuration. Surely all this is educational; and it is rather strange that instruction in such a branch, even for the space of two hours a week in the day schools, would call for any advance of the school age. So far as the law relates to manual training, it is a barrier to progress and should be changed.

In October last, the school board, on the recommendation of the manual training committee, authorized the opening of an evening manual training school which, in the opinion of City Solicitor Hogan, does not come under the operation of the law regarding the school age. As some difficulty was experienced in procuring a suitable building, it was not until December 4 that the board voted to engage Mr. Joseph E. Owens who was very highly recommended by Principal Farnham of the Lincoln Manual Training school of Brookline, Mass. In this school, which is one of the very best in New England, he has served as assistant for three years, and his work in this city has proved the wisdom of his selection. He still holds his position in the Lincoln school and comes to Lowell four evenings a week.

The manual training school was eventually opened in the old city hall, where twenty-seven patent benches were put in and equipped with the necessary tools. The equipment for each bench consists of a plane, split saw, back saw, two-foot rule marking gauge, try square, bevel, three chisels,—inch, half-inch and quarter-inch respectively,—half-inch bit, pencil, bench hook, and a drawing kit. This has a drawing board, a T square, two angles,—one 60° and the other 45°;—there is a clip for holding drawings and a brush to keep the bench clean. The bench has two vises, and is adjustable to the size of the boy. There is, besides, a number of general tools such as block planes, mallets, hammers, bevels, cross-cut saws, braces and compass.



SCHOLARS PATENT BENCH.

COURSE IN WOODWORK.

The exercises comprise two courses in woodwork. The first, or elementary course, consists of ten models, the construction of which requires the use of the ordinary tools for woodwork. A working drawing of each model must be made before the execution of the work. After this comes a progressive course in joinery comprising twelve models, each of which calls for the use of certain tools and involves some important principle of carpentry. When completed, each model with the drawing thereof is handed to the teacher, and if not correct in every particular according to the dimensions given, the pupil will be required to do the work over again.

The courses in detail are as follows :

1. Lining with marking gauge, dimensions, $9'' \times 3\frac{1}{2}'' \times \frac{1}{2}''$, whitewood.
2. Lining with try square and pencil, dimensions and wood same as in No. 1.

3. Sawing with back saw, dimensions same as in No. 1.
4. Sawing with splitting saw, dimensions same as in No. 1.
5. Grooving with chisel at 90° , dimensions same as in No. 1.
6. Grooving with chisel at 45° , dimensions, $9'' \times 2\frac{1}{2}'' \times 1\frac{1}{2}''$.
7. Planing four edges at right angles, the ends square to faces one and two. Wood, $1\frac{7}{8}''$ pine, dimensions, $9'' \times 1\frac{3}{4}'' \times 1\frac{3}{4}''$ finished.
8. Boring with the brace and bit across the grain. Pine wood, $1\frac{7}{8}$ inch, dimensions, $9'' \times 1\frac{3}{4}'' \times 1\frac{3}{4}''$ finished.
9. Making an octagonal piece with sides exactly the same, size from $1\frac{7}{8}$ inch pine, dimensions, $9'' \times 1\frac{3}{4}'' \times 1\frac{3}{4}''$ finished.
10. Constructing a whitewood box, dimensions $8'' \times 5'' \times 2\frac{1}{2}''$.

COURSE IN JOINERY.

1. Groove piece. Review of chiselling at 90° and 45° . Wood $\frac{5}{8}''$ pine.
2. Whole mortise and tenon joint from $1\frac{7}{8}''$ pine, dimensions, $10'' \times 1\frac{3}{4}'' \times 1\frac{3}{4}''$.
3. Halving at centre, dimensions same as in No. 2.
4. Open dovetail at the end, whitewood, dimensions same as No. 2.
5. Whole dovetail at the centre, halved, wood, $1\frac{7}{8}''$ pine; dimensions same as No. 2.
6. Keyed dovetail, wood and dimensions same as No. 2.
7. Timber splice or straight splice from $1\frac{7}{8}''$ pine, dimensions, $9'' \times 1\frac{3}{4}'' \times 1\frac{3}{4}''$ finished.
8. Bevelled splice, wood and dimensions same as in No. 7.
9. Chamfered piece, $1\frac{1}{4}''$ pine, dimensions, $10\frac{1}{2}'' \times 1\frac{1}{8}'' \times 1\frac{1}{8}''$.
10. Double mortise and tenon grooved for panel, with grooving plane, $\frac{7}{8}''$ pine, dimensions, $16'' \times 4\frac{1}{2}'' \times \frac{7}{8}''$.
11. Open dovetail, from $\frac{7}{8}''$ pine, dimensions, $5'' \times 5'' \times \frac{7}{8}''$.
12. A bracket, $1\frac{7}{8}''$ pine, dimensions, $14'' \times 1\frac{3}{4}'' \times 1\frac{3}{4}''$.

These exercises will be supplemented by a number of extra models such as a miter box, a frame, a dovetail box, a book case, a bureau and others which will require the application of the principles taught in the two courses given above.

The exercises laid down in these courses are calculated to train the eye and the hand; to inure to habits of thinking correctly, of

reasoning logically, of planning out what is to be done, of being practical rather than theoretical, of adopting the readiest way of doing things and of doing everything right. The manual training student is engaged with mathematical lines, perfect angles, regular curves, close joints, and the principles of construction as regards counterparts, accurate measurements, strength and beauty. In whatever trade the pupil may subsequently engage, he will make more rapid progress, and his success will be greater on account of his training in manual skill. As yet the courses are not sufficiently varied to develop, in all cases, the true mechanical aptitudes of the pupil, so that he may be materially assisted in choosing a profession or trade; but if wood turning or pattern making and machine work were added, this end would be fully accomplished. At present only the highest grade in each grammar school has the advantages of manual training. There are five classes each week drawn from the various grammar schools as follows :

Monday,	4 to 6 p. m.,	Green and Pawtucket.
"	7 to 9 "	Butler and Edson.
Tuesday,	7 to 9 "	Highland.
Thursday,	7 to 9 "	Varnum and Bartlett.
Friday,	7 to 9 "	Moody and Colburn.

To give the pupils a thorough course in manual training, the grammar grade next to the highest should take up woodwork and outline the course until graduating or dropping out. The course should be extended to include wood turning, machine work and forging. There should be a course for high school pupils also, and it should embrace instruction in electricity, both theoretical and applied. One special instructor in manual training could give instruction to the pupils of the two higher grammar grades in woodwork; but another instructor would be needed if machine work and forging should be taken up. This would supply the needs of the city for manual training, so far as the boys are concerned; but cooking should be introduced for the benefit of the girls. This might be started experimentally as an evening school, in order that there would be no interference with the day schools until a perfect plan were developed for the introduction of this branch.

The committee is gratified with the start that has been made in this branch ; the parents of the pupils are desirous that their boys shall have the greatest possible facilities for manual training, while the boys themselves are delighted with the work. The people of the city do not realize the value of manual training, and some who might be supposed to be conversant with its aims and the benefits to be derived from it, speak of it as affording a mere smattering knowledge of carpentry or iron work. This is a mistake. Manual training is as much an educational branch as is arithmetic, drawing, mensuration or geometry, and it is the branch which, more than any other taught at school, gives a practical bent to what is learned and reveals the great power which lies in the well directed use of the hands. A man might as well almost be without hands if he cannot use them to advantage in his life work.

Manual training is daily becoming more popular, and is now favored even by political parties. The commission appointed in 1891, by Governor Russell, to investigate the existing systems of manual and industrial training, has recommended that the state shall appropriate to each city or town which gives instruction in manual training a sum equal to that paid by said city or town, provided that amount be not over \$5,000 per year. It is further recommended that the board of education appoint a paid agent, whose duty it will be to aid in the introduction of manual training throughout the state, and to visit and report upon all such schools.

MORAL RESULTS OF MANUAL TRAINING.

Speaking of the moral aspect of manual training, Mrs. Louisa P. Hopkins, one of the three members of the commission referred to, has this to say :—

“Occupation, although the passive side of manual training, is yet the salvation of disciplinary methods. Give the child a tool, you at once differentiate him from the animal; he begins to feel his human capacity and his human relations ; he wants to work out his ideas and give tangible shape to his thought ; to communicate what he knows, and become a unit in the unity of human brotherhood. Fraternal industry is the watch-word of our times. A few principles and simple tools give the key to all trades and arts. The boy must know how to take his place in the economy of the household. Give him the saw, the plane and the hammer. Let

him take his knife out of his pocket, and turn it to good account. Let the girl learn housewifery, sewing and cooking, that the home may be a beneficent factor in our private and public life.

“‘The exercises in manual training,’ says the ‘Boston Course of Study,’ ‘are a means not only of physical and intellectual but of moral culture. They train to habits of accuracy, neatness, order and thoroughness; they exercise the judgment, will and conscience; they present an incentive to good work in all directions, and offer a moral stimulus and preparation for usefulness at home and in the community.’

“The children are taught to love tangible work—and what child does not? They are trained to be apt in applying their constructive and originaive powers to the material about them. They are related to the industries which develop all our resources; they are given mastery of all their active powers. They learn the elements of labor and service in which all share.

“All our present efforts at industrial education are in the interest of homes that shall save men from vice, society from disorder and the laborer from despair. Skill at some trade, aptness at some hand-work, the ability to support one’s self, to do something which has a market value, is a great preventive of crime. Who can point to a skilled mechanic of good habits and available health whose family are beggars? Systematic labor, work for a purpose, not merely mechanical but scientific in method, is the outcome of manual training in the schools.

Testimony of Boston teachers after the initiation of manual training in the lower schools:—

“The boys looked forward with great pleasure to the privilege of using the tools. Many times they would voluntarily remain after school to finish the articles they had begun.”

“The beneficial effect of this work on the pupil is surprising; whereas, before it, there had been cases of truancy which were considered incorrigible, and corporal punishments were of daily necessity, after it, not a case of truancy occurred, nor was corporal punishment once necessary.”

Much testimony has come to hand in cases of children of deficient intellectual development whom the simple forms of manual training have been potent to arouse and stimulate. Such children

have advanced in their power to learn by exercising their power to do.

Orderly hand-work is regenerative when all directly ethical means are of no avail to build up character. Its material advantages are so plain that they need no recital ; its educative power is what most concerns us in the consideration of our school courses.

EDWARD GALLAGHER.

ANDREW G. SWAPP.

WILLIAM H. LATHROP.

PATRICK KEYES.

FRED T. WALSH.

Report of the Superintendent.

OFFICE OF THE SUPERINTENDENT OF SCHOOLS,
DECEMBER 31, 1893.

Gentlemen of the School Committee:—

In accordance with your rules, I have the honor to submit the following as my report for the year 1893:—

SUMMARY OF STATISTICS.

Value of real and personal property, ...	\$68,856,570.00
Population, estimated, ...	87,191
Number of polls, ...	23,511
Increase for the year, ...	625
Number of children between five and fifteen years of age, May 1, 1893, ...	14,229
Ward One, 1637; Ward Two, 2687; Ward Three, 3163; Ward Four, 2066; Ward Five, 3100; Ward Six, 1576.	
Number of Public Schools, ...	45
One High, eight Grammar, thirty-one Primary, four Mixed, one Training.	
Number of Kindergartens, ...	5
Number of Public School buildings, ...	47
Number of teachers employed, December 31, 1893	225
High School, six males, thirteen females.	
Grammar Schools, eight males, seventy-eight females.	
Primary Schools, ninety-eight females.	
Training School, five females.	
Mixed Schools, two females.	
Kindergartens, ten females.	
One teacher of penmanship.	
One teacher of drawing.	
One teacher of music.	
One teacher of sewing.	
One teacher of physical culture.	
One military instructor.	

Number of teachers of Evening Schools, term of 1892-3,	\$105
Whole number enrolled in the Evening Schools, term of 1892-93,	3,297
Whole number enrolled in Day Schools,	11,565
Whole number enrolled in Kindergartens,	322
Average number belonging to all the Day Schools,	8,426
High, 607; Grammar, 3779; Training and Primary, 3984	
Mixed, 56.	
Average number belonging to all the Kindergartens,	154
Average attendance in all the schools,	7,722
High, 580; Grammar, 3,472; Training and Primary, 3,620;	
Mixed, 50.	
Average attendance in the Kindergartens,	127
Average number belonging to each teacher,	40
High, 37; Grammar, 44; Training and Primary, 40.	
Mixed, 28; Kindergarten, 31.	
Average number belonging to each room,	40
High, 30; Grammar, 43; Training and Primary, 41;	
Mixed, 28; Kindergarten, 38.	
Average per cent. of attendance,	92
High, 95; Grammar, 92; Training and Primary, 91;	
Mixed, 91; Kindergarten, 83.	
Average cost of each pupil, for tuition only, based on average number belonging,	\$18.17
High, \$28.55 ; Grammar, \$17.16 ; Training and Primary, \$16.34; Mixed, \$20.06; Kindergarten, \$15.04.	

RECEIPTS AND EXPENDITURES.

RECEIPTS.

Balance undrawn Jan. 1, 1893,	\$ 270.58
Appropriated and assessed,	200,000.00
Loan,	25,000.00
Received from other sources,	1,231.69
Total standing to credit of schools,	<u>\$226,502.27</u>

EXPENDITURES.

Paid to the teachers of Day Schools:—

High School,	\$17,331.00
Grammar Schools—Bartlett,	\$ 6,100.99
Butler,	8,814.41
Colburn,	3,497.33
Edson,	8,209.21
Green,	7,645.84
Highland,	10,896.14
Moody,	6,331.96
Pawtucket,	4,940.00
Varnum,	8,307.75
	64,743.63

Primary and Mixed Schools, ...	\$61,118.33
Training School, ...	5,108.01
Kindergartens, ...	2,316.00
Teacher of Penmanship, ...	1,250.00
Teacher of Drawing, ...	1,250.00
Teacher of Music, ...	1,250.00
Teacher of Sewing, ...	791.25
Military Instructor, ...	250.00

Total paid for instruction in Day Schools, inclusive of instruction in military tactics in High School, ...

\$155,408.22

Evening Schools :—

Paid for teachers, ...	\$16,006.50
Janitors, ...	1,819.00
Lighting, ...	1,586.02
Incidentals, ...	676.04

\$20,087.56

Evening Drawing Schools :—

To teachers, ...	4,249.50
Janitors, ...	105.00
Lighting, ...	418.02
Incidentals, ...	352.12

\$5,124.64

Manual Training School :—

To teacher, ...	\$ 55.00
Labor and material, fitting up school, ...	452.02

507.02

Fuel, ...	13,081.06
Bills for hauling coal, ...	31.18
Water, ...	1,764.61
General repairs, material, labor, etc., ...	454.05
Bills of Superintendent of Public Buildings, for lumber, making and repairing furniture, labor, etc., ...	1,414.05
Text books, ...	6,090.77
Supplementary reading, ...	283.57
Drawing books, writing books, slates, pens, etc., etc., ...	3,919.96
Incidentals on account of same, ...	459.72
High School Battalion, ...	336.85
High School graduating exercises, ...	107.95
Rebinding school books, ...	103.40
Taking census of school children, ...	736.60
Rent of telephones, ...	136.35
Board and care of horse, repairs on wagon, etc., ...	351.48
Power for ventilating purposes, ...	225.01
Sewing material, ...	95.29

Rent of rooms for school purposes, ...	\$1,027.50
Lowell Gas Light Co. for gas, Day schools, ...	163.46
Supplies for Janitors.	918.79
Kindergarten material, fitting up, etc., ...	1,174.02
Water Board, for meters, ...	47.20
Apparatus for High School, ...	299.44
Settees, desks and furniture for halls, ...	968.65
Printing, ...	621.51
Pianos, ...	1,590.00
Cabinets, ...	80.00
Salary of Superintendent, ...	2,800.00
Salary of Supervisor, ...	1,425.00
Salary of Truant officers, ...	2,750.01
Miscellaneous, ...	1,430.08
Total expenditures, ...	<u>\$226,015.00</u>
Balance undrawn, ...	<u>487.27</u>
Total, ...	<u><u>\$226,502.27</u></u>

SCHOOL HOUSES.

RECEIPTS.

Balance undrawn, Jan. 1, 1893, Moody School, ...	\$ 9,939.03
Balance undrawn, School Houses, ...	695.15
Appropriated and assessed, ...	25,000.00
Loan, ...	8,000.00
Received from other sources, ...	15,875.78
Total, ...	<u><u>\$59,509.96</u></u>

EXPENDITURES.

For Moody School, ...	\$11,673.34
janitors, ...	19,098.37
general repairs, ...	25,049.98
Transferred to account of Oakland School, ...	2,000.00
Balance undrawn, Jan. 1, 1894, ...	1,688.27
Total, ...	<u><u>\$59,509.96</u></u>

NEW HIGH SCHOOL BUILDING.

RECEIPTS.

Balance undrawn, Jan. 1, 1893, ...	\$58,676.82
Loan, ...	13,000.00
Receipts, ...	<u>3,805.92</u>
Total, ...	<u><u>\$75,482.74</u></u>

Expenditures, ...	\$72,946.48
Balance undrawn, Jan. 1, 1894, ...	2,536.26
Total, ...	<u>\$75,482.74</u>

OAKLAND SCHOOL

RECEIPTS.

Balance undrawn, Jan. 1, 1893, ...	\$8,099.08
By transfer from School houses, ...	2,000.00
Receipts, ...	40.00
Total, ...	<u>\$10,139.08</u>
Expenditures, ...	<u>\$10,139.08</u>

CHELMSFORD STREET SCHOOL.

RECEIPTS.

Balance undrawn, Jan. 1, 1893, ...	\$53,010.59
Receipts, ...	6.24
Total, ...	<u>\$53,016.83</u>
Expenditures, ...	\$33,596.32
Balance undrawn, Jan. 1, 1894, ...	19,420.51
Total, ...	<u>\$53,016.83</u>

BUTLER SCHOOL ANNEX.

RECEIPTS.

Loan, ...	<u>\$25,000.00</u>
Expenditures, ...	\$ 9,577.73
Balance undrawn, Jan. 1, 1894, ...	15,422.27
Total, ...	<u>\$25,000.00</u>

The statistics given in the preceding tables do not differ materially from those of former years. The number of children between five and fifteen years of age, as reported by the census enumerators, has increased from 12,552 in 1892 to 14,229 in 1893, a gain of over 13 per cent., but this is probably due rather to more faithful work by the enumerators than to any exceptional increase in the

number of children. The enrollment of the day schools shows a slight increase, and the gain in the average attendance has been still larger, carrying the per cent. of attendance up to 92. It was 90 per cent. in 1891 and 91 per cent. last year. This improvement is proof of interest on the part of pupils and faithful work on the part of teachers, and as such is very gratifying.

As was anticipated last year, the total expense of the schools is larger than before, and it can hardly fail to be still larger next year. More pupils require more teachers and more books. Improved methods of heating and ventilating school houses necessitate more fuel, and so on. We shall begin the year 1894, for instance, with a dozen more teachers than we had at the beginning of 1893. Kindergartens and manual training cost money, and a steady increase in expenses is inevitable and should be expected. The salaries paid to teachers this year amount to nearly \$180,000, and coal, gas and water, on none of which a cent's less expenditure can be expected, have increased the cost to over \$200,000. Text books, including writing and drawing books, cost about \$11,000, and it has only been by the closest economy that the thousand and one other items of necessary expense have been kept within the limits of the sum expended. And next year, as before stated, the cost is likely to be still larger.

SCHOOL HOUSES.

In the construction of public buildings, 1893 has been a red letter year in Lowell. The new city hall and the memorial building, costing together, including the land, over \$600,000 have been matched in utility if not in cost by the noble buildings which have been dedicated to the cause of education. The earliest to be occupied was the new Moody school house, at the corner of High street and Fort Hill avenue. This is a handsome and imposing brick building, erected at a cost of \$81,734.31. It contains twelve school rooms, besides offices, teachers' parlor, etc., and has on the upper floor a hall which will seat 1,000 people. It is finished throughout with the long-leaf southern pine, the light color and handsome marking of which give the rooms a lighter and more cheerful appearance than any other wood commonly used for inside finish. The building is equipped with all modern conveniences in the way of

electric call bells, speaking tubes, etc.; and, taken altogether, may fairly be called the finest grammar school building in the city. Ten of its twelve rooms are now in use,—one for a kindergarten, one for a primary room, and eight for the grammar school. Another grammar room will probably be opened in February next.

The house was dedicated Wednesday, April 12, having been occupied by the school from the beginning of the April term. The spacious hall proved hardly large enough to accommodate the spectators, so great was the interest taken in the building and the exercises. Mr. T. P. Boulger, the sub-committee of the school, presided, and the program included the passing of the keys from Alderman Westall, chairman of the committee on lands and buildings, to the school board, as represented by Vice Chairman Geo. M. Harrigan, by Mr. Harrigan to Mr. Boulger, as sub-committee of the school, and by the latter to the master, Mr. W. S. Greene; the presentation, by Col. A. A. Haggett, of an American flag, donated by Mrs. Hocum Hosford; remarks by Mr. Ephraim Brown, assistant to Mr. Seth Pooler, the first master of the school, from 1845 to 1849; address by His Honor, Mayor Pickman; address by Philip J. Farley, Esq.; and remarks by Rev. R. A. Greene, and the Superintendent of Schools.

The new High School building, for which teachers and pupils had been waiting so anxiously, and at the last so impatiently, was finally occupied Monday, October 23, and the general verdict seems to be that it was worth waiting for.

Lowell's first High School was opened in 1831, in a cottage house on Middlesex street, and after several migrations found permanent quarters in a new building, erected for the purpose on Kirk street, in 1841. This building did good service for fifty years, but was finally outgrown and taken down in July, 1891. More land was added to its site; and the new building retains the same position, extending from Kirk street to Anne street, with entrances on each street. It is built of buff brick, and is three stories high with a granite basement. The wood work is of hard pine, and is very light and handsome. A spacious corridor runs the entire length of each of the first two floors, from the Kirk street entrance to the doors on Anne street, and the rooms are ranged on each side of these corridors. The first floor has seven school rooms, with seats for 56 pupils each, a library, an office, and reception

room. The second floor has eight school rooms, and the third floor has a hall in the center of the building 74 x 88 feet, with a seating capacity of 1,200. At the Kirk street end are the physical laboratory and the physical lecture room, and at the Anne street end are the chemical laboratory and lecture room. The floor of the latter is built in terraces to give a better view of the lecture table in front, and contains 96 chairs with arm-rests for writing. The floor of the laboratory is tiled, and the fittings are models of elegance and fitness. The building is lighted by gas and electricity, and is provided with all modern improvements in the way of electric gongs, call bells and speaking tubes. It has cost, to date, \$199,279.65. Nothing has been wasted in useless ornamentation; and it is undoubtedly one of the best buildings for the cost to be found in the state.

The building was dedicated Friday afternoon, December 22, the following being the

PROGRAM.

MUSIC. America,

THE AMERICAN QUARTET.

INVOCATION,

REV. R. A. GREENE.

DELIVERY OF THE BUILDING to the Chairman of the School Committee,

ALDERMAN W. E. WESTALL,
Chairman of the Committee on Lands and Buildings.

ACCEPTANCE OF THE BUILDING and delivery of the keys to the Principal of the High School,

HIS HONOR, MAYOR JOHN J. PICKMAN.

ACCEPTANCE OF THE KEYS,

F. F. COBURN,
Principal of the High School.

MUSIC. Firmly Stand My Native Land,

THE AMERICAN QUARTET.

ADDRESS,

DR. G. STANLEY HALL,
President of Clark University.

MUSIC. Keller's American Hymn,

THE AMERICAN QUARTET.

LETTER FROM RT. REV. THOMAS M. CLARK.

ADDRESSES,

GEO. H. CONLEY, Ex-Superintendent of Schools.

GEO. F. LAWTON, Ex-Superintendent of Schools.

A. K. WHITCOMB, Superintendent of Schools.

PRESENTATION OF STATE FLAG by Lowell Catholic Union,

JOHN W. MC EVOY.

PRESENTATION OF UNITED STATES FLAG by the United American Mechanics,

MR. N. S. GREENLEAF.

MUSIC. Medley of Patriotic Airs,

THE AMERICAN QUARTET.

A third new building, a four-room primary school house at the Oaklands,—was finished in the summer, and occupied in September. Its cost was \$12,040.

All of these buildings are heated by furnaces, and the circulation of pure air, to an amount of not less than 1,500 cubic feet per minute, is secured by the draft from a large central chimney, or "stack," in which a fire is kept constantly burning, the system being that of the Fuller & Warren Warming and Ventilating company. This method of heating has been in use at the Cross street and Cabot street schools for three years, and has worked admirably; but whether it will work as well in larger buildings is a question which, with us at least, is not fully settled. The principle is the same, and if a separate furnace is used for every two rooms it would seem that the results ought to be the same, whether the building contains four rooms or forty. Thus far, however, the results with us have not been as satisfactory in the new buildings as in the old. This fact is partly due to some faults of construction for which the system is in no way responsible, and the correction of these faults has already resulted in much better service; but it is yet too early to pronounce definitely upon the success of what is still an experiment. The system certainly presents some very great advantages, and if it can be made to do in large buildings all that is claimed for it, or all that it has already done at Cross street, it will be a matter of the highest importance. And while we suspend judgment, we hope for the best.

That we should be experimenting with methods of ventilation is, perhaps, a necessity, for it is only within a very few years that such methods have come into general use, but there are things

about which we have no settled plans or fixed rules which have long since passed the experimental stage. The committee on reports call attention, for instance, to imperfect lighting and misplaced desks, causing myopia and perhaps other avoidable ills. The construction of school buildings and the choice and placing of school furniture is not, unfortunately, in the hands of the school committee, but the committee on lands and buildings would, I think, gladly require all architects and builders to conform to well known and reasonable rules of construction, if those conditions and rules were formulated and placed in their hands. The rooms, for instance, should be of a specified height, with a designated amount of floor space per pupil; the windows should bear a definite relation to the floor space, and should be on at least two sides of the room; the desks of the pupils should be so placed as to receive the light in a required direction; the amount of pure air should not be less than a specified minimum; and so on through a large number of conditions from which no deviation should be permitted. Many cities have formulated very carefully prepared rules on all these points, and Lowell should, in my opinion, do the same.

In addition to buildings already completed, two others are well under way. The Chelmsford street grammar school house, which is to be called the Abraham Lincoln school, a handsome brick structure of eight rooms, with plans for four more when needed, is roofed in, and will easily be put in condition to occupy by September next. A much needed four-room addition to the Butler school is in about the same condition, and will be finished at the same time.

But much as has recently been done in the way of new buildings, there is still imperative need of more. In last year's report attention was called to the necessity for a new school house in Ward 5, to take the place of the Bartlett school house. This building is the oldest and poorest in the city. I have no desire to increase the prejudice against it by calling attention to its defects, but it is a well known fact that parents on all sides of it seek every pretext to send their children to the Green, the Highland or the Pawtucket school, not from any prejudice against the teachers, who certainly average well with those of other schools, but wholly on account of the condition of the building. Such a condition ought

not to exist. If the building is not fit for all, it is not fit for anybody. The need for a new building here was great last year; it is greater this year. The new building should stand somewhere southwest of the common, and should be built at once.

Argument about the Middlesex Village school house is out of place, for this is a location where a school house *must* be built at once. Land is plenty in this section, and a new lot should be purchased so as to allow the use of the old house until the new one is ready to occupy.

Two years ago, I asked for a new school house in Ward 2, on or near Hildreth street. The need of this house has not increased as fast as I expected, but it is still great. I learn that citizens of this section are circulating a petition to the city council for a house. I heartily indorse their request and hope it will be granted, and a four-room building erected before next September.

SCHOOLS AND TEACHERS.

No radical changes have been made in courses of study or methods of teaching, but there has been, I think, a steady growth in the line of all that is best in modern methods and the new education. Never has the regular work of the school-room been more intelligent and earnest, and never has there been shown a greater zeal for improvement. This has manifested itself especially in a wider reading; in the formation of classes of teachers for special study; and of organizations for mutual help and improvement. Several schools have very respectable libraries of pedagogical books, which are read as well as placed upon their shelves. About one-third of all the teachers of the city have studied Geology, with special attention to field lessons, with Miss Harriette Rea. Last spring a course of lectures on Psychology, by Dr. Larkin Dunton of Boston, was attended by more than two-thirds of the teachers, who assessed themselves to pay the bills; and recently the master and all the assistants of one grammar school have arranged to devote one afternoon a week to reading together Baldwin's Psychology, intending to finish the book this winter. Two grammar schools have taken regular lessons of a teacher of physical culture, and have made these lessons bear practical fruit in the work of their own rooms, and so on. In the matter of organizations for meetings of teachers, the advance has been still greater.

The old Teachers' Institute, of which all teachers of the city are ex-officio members, has been revived, though its meetings have as yet been few. The graduates of the Training school, who now number nearly 100, have a "Union," which has held monthly meetings with addresses upon "Physical Culture" by Miss Keyes of the Training school; "Local Geology" by Miss Harriette Rea; "The Flora of Lowell" by Miss Lillian Russell, and "A Lesson in the Study of Insects" by Prof. Alpheus Hyatt of Boston. The primary teachers have formed an association, with excellent meetings addressed by Miss Seales of the Cross Street school, Miss Bowers of the Dover Street school, and Miss Holden of the Mammoth Road school. All of these were made more interesting by exhibits of school work, and in the latter case by the presence of a class of children from the school. The primary school principals have had two meetings to consider matters of special interest to themselves, and the grammar masters have resumed the monthly meetings of former years. All the public meetings have been largely attended, and they have undoubtedly done much to increase the general interest. A teachers' institute was held in October by the State Board of Education, upon a Saturday, at which those who have said that teachers would not attend a meeting held on a holiday were shown to be wrong, for, so far as I can learn, every teacher of the city, elected, temporary or substitute, with the exception of some High school teachers who had a meeting of their own in Boston, and every graduate of the Training school, was present. Mr. A. C. Boyden of Bridgewater is now giving a course of lessons on nature study, to last through the school year, which is attended by a large majority of the teachers, who not only attend but pay the expenses. In fact, the teachers are doing so much that a course of lectures on the Principles of Education, by Secretary Dickinson of the State Board, which had been planned for in the fall term, was reluctantly postponed, Dr. Dickinson writing me a characteristic letter in which he said: "Your teachers are doing *enough* already. There is such a thing as having more than one is thankful for." That teachers are doing "enough" is certainly high commendation, and cannot fail to bear good fruit in the future.

The changes in the roll of teachers are as follows :

DECEASED.

	Term of Service.
Carrie Stone, ...	8 years.
Alice M. Batchelder, ...	6 years.

RESIGNED.

	Term of Service
Julia M. Dewey, ...	5 years.
Marietta Melvin, ...	34 "
Delia J. Smith, ...	2 "
Harriet C. Hovey, ...	23 "
Cora M. Howe, ...	1 "
Mary E. Way, ...	35 "
Laura J. Pinder, ...	37 "
Celestia P. Chase, ...	26 "

TRANSFERRED.

Agnes L. Donoghue, from the Butler school to the Edson school.

Agnes M. Foley, from the Weed street school to the Butler school.

Rose E. McVey, from the London street school to the Cottage street school.

Alice A. Masterson, from the Cottage street school to the London street school.

Carrie A. Paul, from the Edson school to the Moody school.

Winnifred Haggerty, from the Eliot school to the Pond street school.

Georgiana F. Vinton, from the Varnum school to the High school.

Lizzie A. Hart, from the Varnum school to the Pawtucket school.

Loyola McCann, from the Pond street school to the Eliot school.

Nettie M. Conant, from the Dover street Kindergarten to the Central-ville Kindergarten.

ELECTED.

Ella M. Breen, to the Moody school.

Carrie E. Erskine, to the Moody school.

Maud A. Jones, to the Moody school.

Grace F. Ward, to the Edson school.

Addie B. Merrill, to the Training school.

Mary F. Ward, to the Highland school.

Fannie Hardman, to the Varnum school.

Grace Scribner, to the Varnum school.

Elizabeth F. Garra, to the Varnum school.

Katherine Kelley, to the Cross street school.

Mary J. Carmichael, to the Weed street school.

Lilla M. McEvoy, to the Weed street school.

Jeannette T. Costello, to the Mammoth Road school.
Loyola McCann, to the Pond street school.
Henry H. Harris, to the High school.
Jas. L. Mellen, to the High school.
Frank M. Brogan, to the High school.
Grace M. Goodhue, to the High school.
Mary C. Walker, to the Moody School Kindergarten.
Ella L. Pratt, to the Moody School Kindergarten.
E. Belle Perham, to the Pawtucketville Kindergarten.
Ellen J. Piper, to the Pawtucketville Kindergarten.
Elizabeth A. Wilson, to the Dover street Kindergarten.
Mabel D. Nickerson, to the Training School Kindergarten.
Mary A. Cronin, to the Centralville Kindergarten.

The two teachers whose deaths are recorded in the roll deserve more than a passing mention.

Miss Carrie Stone, who died May 23, at the age of 28, had been a teacher in the Edson school, of which she had once been a pupil, for eight years. Modest and unassuming, she was yet firm and self reliant, a model teacher and a friend to be so loved that I have never seen a deeper grief than was manifested by all her associates in the school. Her loss is irreparable, except as it is, as it must be to all who knew her, a perpetual stimulus to more faithful and earnest work.

Miss Alice Maud Batchelder died October 9, at the age of 28, after a lingering illness of nearly two years. She had been a teacher in the Mammoth Road school for five years. Gifted with rare tact and grace, an enthusiast in her profession, her school work had been a great success. In social life she was a special favorite, and there are few young ladies of the city who would have been more widely missed or more deeply regretted.

HIGH SCHOOL.

The occupancy of a new building forms an epoch in this year's history of the High School, and as if to signalize the event the number of students belonging went up from 461 at the beginning of the year to 597 at its close. Two teachers of long and successful experience resigned in June,—Miss Melvin to take a more responsible position in China, and Miss Hovey to take a well earned rest. Their places were filled by the transfer of Miss Vinton from the Varnum, and the election of Miss Goodhue, both

of whom are doing excellent work. The increase in the number of pupils, however, necessitated an increase in the number of teachers, and Messrs. Harris, Mellen and Brogan, after an apprenticeship as temporary teachers through the fall term, were elected to the school, in December. The better quarters and the better facilities for work, especially in chemistry and physics, have increased the interest as well as the numbers, and the school is in excellent condition.

A class of 91, the largest in the history of the school, graduated in June. The following is the program of the exercises at graduation, with the names of the graduates and the Carney medal scholars:

PROGRAM.

MARCH. "The Battalion,"		<i>W. E. Owen</i>
AMERICAN ORCHESTRA.		
OVERTURE. "A Night in Granada,"		<i>Kreutzer</i>
AMERICAN ORCHESTRA.		
WHAT OF THE REPUBLIC?		<i>McClure</i>
JOHN A. DONOVAN.		
A PLEA FOR DAME VAN WINKLE,	<i>Written by Louise A Campbell</i>	
GRACE E. HIBBERT.		
CHARLES DICKENS,		<i>Written by Inez A. Newell</i>
INEZ A. NEWELL.		
CHORUS. "Stars of the Summer Night,"		<i>Owen</i>
YOUNG LADIES OF THE SCHOOL.		
BURIAL OF GRANT,		<i>Anon</i>
MILO G. ROBBINS.		
A COLONIAL WRITER,		<i>Written by Nellie F. Richardson</i>
NELLIE F. RICHARDSON.		
INTRODUCTION AND WALTZ. "Helen,"		<i>Owen</i>
AMERICAN ORCHESTRA.		
IN MEMORIAM,		<i>King</i>
ROBERT W. THOMSON.		
THE JEW IN FICTION,		<i>Written by Jennie E. Wheeler</i>
JENNIE E. WHEELER.		
WALTZ SONG. "Bright Radiant Morn,"		<i>Owen</i>
ARMY OF THE POTOMAC,		<i>Depew</i>
PERRY D. THOMPSON.		

WORDS. "Their Uses and Abuses," . . . *Written by Edith M. Cheney*
EDITH M. CHENEY.

CHORUS. { *a.* Summer Morning, ... *Smart*
 { *b.* Good Night, ... *Abt*

VALEDICTORY,

ALBERT S. HOWARD.

PRESENTATION OF CARNEY MEDALS.

BY GEORGE M. HARRIGAN, VICE-CHAIRMAN OF THE SCHOOL COMMITTEE.

PRESENTATION OF DIPLOMAS.

BY THE MAYOR, JOHN J. PICKMAN.

SINGING OF CLASS ODE. *Words by Susan S. Dillingham*

Across the fields of study now
The angelus is ringing ;
It tells us that the day is done
And happy rest is bringing,
And journeying homeward, student bands
Are moving on with laden hands.

Abundant sheaves they've gathered there,
Their fulness they have measured ;
Within the city's dust and glare
Their fragrance will be treasured ;
But at the gates, with saddened heart,
These friendly bands too soon must part.

O Father, in these pleasant ways,
The time has passed unbidden,
The joys, the tears of future days
Are from our vision hidden.
Then guide us ever in the light
Until we breathe life's last "good-night."

Graduates For 1893.

FOURTH YEAR.

Fay Aldrich.	George Edward Richardson.
Ernest Jason Alley.	Milo Gilman Robbins.
George Edward Butler.	Harry Buttrick Sewall.
Clark Tower Cutting, Jr.	Ellen Eliza Bean.
John Augustine Donovan.	Louise Porter Campbell.
Charles Francis Harmon.	Edith May Cheney.
Edwin Conant Hitchcock.	Alice Maud Dempsey.
Albert Straw Howard.	Susan Stanley Dillingham.

William Kelley.	Daisy Ethel Flanders.
Charles Eland Montgomery.	Nellie Cecilia Mahoney,
George Bigelow Pillsbury.	Maude Marshall.
Burton Wiggin Plaisted.	Mabel Edna Mitchell.
Sadie Emily Tully.	

THIRD YEAR.

John McMillan Ayer.	Margaret Christinna Fox.
Walter Percy Berry.	Alice Leslie Frothingham.
James Joseph Cassidy.	Susie Maria Gifford.
Walter Irwin Chase.	Marietta Gertrude Gormley.
August Benedict Fels.	Belle Blanche Hadley.
William James Fields.	Susie May Hannaford.
William Kendall Hallowell.	Grace Elizabeth Hibbert.
John Franklin Harvey.	Edith Anne Howitt.
Patrick John Honan.	Esther Louise Hylan.
Lewis Granville Hunton.	Effie May Johnson.
Edwin James Hylan.	Etta Maria Kelley.
Fred Seavey Kingsbury.	Josephine Annette Kennedy.
Edmund Cooke Little.	Mary Agnes Lamberton.
William Marley.	Theresa MacCue.
Joseph Norris Marston.	Marietta Louise McGrath.
George Francis Mogan.	Annie Mellen.
Henry Sylvester Mogan.	Gertrude Stanwood Munn.
Herman Cecil Rowell.	Inez Adele Newell.
Percy Daniel Thompson.	Mary Elizabeth O'Donnell.
Robert Waugh Thompson.	Alice Louisa Pevey.
Edward Henry Welch.	Berneice Durant Ranlett.
Henry Elwynne Worcester.	Nellie Frances Richardson.
Bertha Elsie Bartlett.	Julia Beatrice Riordan.
Lottie Latina Blake.	Grace Rebecca Sanders.
Cora Buckland.	Carrie Beatrice Sawyer.
Maude Evelyn Butler.	Anna Grace Smith.
Juliet Butterfield Carter.	Carrie Gertrude Staple.
Florence Gertrude Cooke.	Ethel Bigelow Stevens.
Anna Marghretta Dempsey.	Bride Theresa Sweeney.
Helen Louisa Dickinson.	Mary Elizabeth Walsh.
Therese Florence Donoghue.	Jennie Emerton Wheeler.
Margaret Ann Dugan.	Mary Elizabeth Wholey.
Blanche Margaret Ferguson.	Jennie May Flanders.

CARNEY MEDAL SCHOLARS.

George Edward Butler.	Edith May Cheney.
Edwin Conant Hitchcock.	Grace Elizabeth Hibbert.
Albert Straw Howard.	Grace Rebecca Sanders.

GRAMMAR AND PRIMARY SCHOOLS.

The average number of pupils belonging to the grammar schools was 3,779, an increase of 246 over the record for 1892. A gain of one per cent was also made in the regularity of attendance, and the number graduated in June, 360, was larger than ever before by more than 100. The number of pupils received from the primary schools in 1887 was 721. These scholars would regularly complete a six years course in 1893, and that the number to graduate this year is fifty per cent. of the number which entered six years ago is a record to be proud of. It shows, as was suggested last year, that more and more pupils are remaining to complete the course, and is a proof of the esteem in which the schools are held by the parents. Another indication of popular favor is the fact that 525 scholars entered the grammar schools last year from sources other than the public schools of the same or a lower grade, as against 402 received in 1892 and 376 the year before.

The primary schools have not increased their membership as have the grammar schools; and in one or two places, as notably at Cheever street and Agawam street, the numbers have been considerably reduced by the opening near them of private schools. They have, however, sent 999 pupils to the grammar schools, and the work done in them as a whole has never been better. The number belonging at the present time is 4,024.

Of the scholars promoted to grammar schools, 336, a little more than one-third, were sent in February; all but one of the grammar schools receiving pupils at that time. Of those of this number who were present in September 22 per cent. had received a double promotion, and were in the tenth class; 47 per cent. had taken the regular promotion and were in the eleventh class, and 31 per cent. had failed of a promotion and were entered as belonging to the twelfth class. The latter had lost nothing as regards advancement, in comparison with their mates in the primary schools who did not get a promotion in February, while the 22 per cent. had already gained a whole year, and the 47 per cent. a half year. I do not, however, base my continued advocacy of February promotions upon figures like these, but rather upon the question of the absolute right of a class to be advanced when

qualified for promotion. I am not sure that the same right may not fairly be claimed for every individual, at any point in his school course, but possibly the inconvenience of individual promotions may sometimes be so great that the greatest good to the greatest number may require the individual to suffer some loss rather than that many of his mates should be injured. But certainly a full class qualified for promotion may properly demand it as a right. The subject is not a new one. In a report which antedates my term of service, I find the following: "Children in a primary school should never be put to threshing old straw because 'there is not room for them in the grammar school.' Such an abomination, it is believed, has been committed in Lowell." I agree with the first of these statements, and trust that the alleged "abominations" are wholly things of the past.

And this question of promotions leads naturally to the consideration of other relations between the two grades of schools, and I am convinced that these relations should be much closer than they are. Elsewhere grammar masters have supervisory power over the primaries of their district, and I think this should be the case here. The grammar master should be in a position to think of all the schools of his district as parts of a system of which he is the head. He will not then think of the primary schools as something apart from, and to some extent antagonistic to, the grammar school, but will make all his plans, those for promotions of course included, with as much regard for the good of the primary schools as for his own.

TRAINING SCHOOL.

The year at the Training School, while filled with hard and successful work, would have been uneventful but for the resignation of its principal, Mrs. Julia M. Dewey, which occurred in July, and the absence on leave since September of the second assistant teacher, Miss Alice M. Clark.

Mrs. Dewey had been with the school from the first. She had seen it grow from four rooms on Worthen Street, with herself the only teacher, to thirteen rooms at its present location, with all the grades from the Kindergarten to the High School. And this steady growth was very largely due to her foresight, energy and persistence. She was a woman of great ability, thoroughly devoted to

her work, gifted with unusual capacity as an organizer, and with the ability to gain and hold the confidence of committees. These qualities were exactly what were needed for the work she had to do in Lowell, and she succeeded where many would have failed. She resigned in Lowell to accept the position of Superintendent of Schools at North Adams, in which place it is safe to predict for her a great success.

At the first meeting of the School Committee after Mrs. Dewey's resignation Miss Katharine T. Keyes, who had been first assistant at the Training School for three years, was promoted to the position of acting principal. Under her direction the school has gone on without a jar, with no noticeable lack of efficiency at any point, and with a positive gain in some respects. Pupils and pupil-teachers have alike been loyal and earnest, and the parents of the children are much better pleased with the school than ever before.

Miss Clark's absence, before referred to, was for the purpose of further study at the Teacher's College, New York, from which she expects to graduate next June. She has been sorely missed, but her example in giving a year's time for such a purpose is worth much to the whole city, and we trust that the loss caused by her absence this year will be more than compensated for by her presence next year. Her place in the school has been taken, for the time she may be absent, by Miss Addie B. Merrill, who was elected in June, and whose work in her new position has given great satisfaction.

In the last four years, the Training School has graduated 86 young ladies of whom almost all are now teaching, the majority having been elected to permanent positions. And while all have not been equally successful, it is fair to say that their work as a whole has been so good that the school has become every year more firmly established in the confidence and esteem of the public. About a dozen of its graduates have taught in other cities or towns, and in every case they have scored a marked success. This is now so well known that the demand from adjoining towns is far greater than the supply, though the supply would doubtless be greater if the pay was larger. There are now in the school twelve students or pupil-teachers, five in the senior class, three in the middle class, and four in the junior.

Following are the names of the graduates:—

FEBRUARY CLASS, 1893.

A. Gertrude Stiles.	Leonora K. Battles.
Blanche A. Cheney.	Annie M. Robbins.
Rose Donnelly.	Mary A. Cronin.
Margaret Kennedy.	Elizabeth A. Wilson.
Ellen A. O'Connell.	

JUNE CLASS, 1893.

Mary V. Johnson.	Elizabeth F. Blandin.
Mary T. Whelley.	Grace G. Marren.
Elizabeth G. Lawler.	

KINDERGARTENS.

Lowell's first kindergarten was opened at Dover Street, in September 1892. It soon became very popular, and anticipating a demand for more, the committee decided to open a training class for kindergartners. To instruct such a class, and at the same time to conduct a kindergarten, Miss Anna W. Devereaux of Marblehead was employed, in December, 1892, and began work with children the first of January, 1893, in a room in the Training School building on Charles Street. In February she took charge of a class of six young ladies and began the work of training kindergartners. The number of children was at first small, and for the first month Miss Devereaux cared for them alone. Later the young ladies of the training class assisted in the work with the children as a part of their practice so that when the number became larger, as was soon the case, Miss Devereaux was still able to get along and do excellent work without a salaried assistant.

In April, a third kindergarten was opened in a room in the new Moody School house in Belvidere, and Miss Mary C. Walker and Mrs. Ella L. Pratt, who had been conducting a private kindergarten in the same section of the city for several years, were elected kindergartners. This, too, was very successful, the limit of fifty pupils being reached almost at once, with a dozen applications for the first vacancy. And this although the age limit for admission had been fixed at from three and one-half to five years, for the purpose of keeping the number down to the capacity of the room. In September a fourth kindergarten was opened in Centralville, with Miss Nettie M. Conant in charge, and this, too, soon

reached its limit of numbers, with many applications filed for the first vacancy. No assistant was provided for Miss Conant in Centralville, and her transfer from the Dover Street Kindergarten left the principal of the latter also without an assistant. These two vacancies were filled by the young ladies from the training class who went to their work in pairs, and by their number more than compensated for the incompleteness of their education. To get more experience they changed places every month, and so earnestly did they devote themselves to this work forenoons, and to their normal work afternoons, that they were able to finish their course in December with great satisfaction to their instructor and the School Committee. Their graduation exercises occurred in the High School hall, Dec. 26, and five of them were elected to permanent positions the next day, while the sixth will undoubtedly receive an election very soon.

Lowell has been exceptionally fortunate in getting her kindergartens started right. Miss Devereaux has proved to be the right person in the right place, and her first class is a very strong one. All the kindergartens we have are of the best type, and we have every reason to expect that those to be taught by the young ladies just elected, will be equally good. And that none but the best work will be accepted is assured by the election of Miss Devereaux, Dec. 27, as supervisor of all the kindergartens of the city.

Last year several applications were received from non-residents for permission to enter the kindergarten training class by the payment of tuition. These applications were refused at the time, in the belief that it would not be easy to accommodate a larger class than was already assured at home. Such conditions, however, will not hold for the future, and it was voted at the last meeting of the committee to admit a limited number of non-residents on the payment of tuition. This affords a rare opportunity to young ladies in towns or cities near Lowell to prepare themselves to conduct a kindergarten under very favorable conditions, and at moderate expense.

Following are the names of the graduates of December, 1893 :

E. Belle Perham.
Mabel D. Nickerson.
Mary A. Cronin.

Elizabeth A. Wilson.
Ellen J. Piper.
Sarah G. Sparks.

EVENING SCHOOLS.

At a public hearing in Boston recently, a well known educator referred to the evening schools of Lowell as "beyond question the best in the state." Modesty might prevent a Lowell man from being the first to make a similar assertion, but we trust to be pardoned if we venture to heartily endorse the opinion of our brother superintendent. Lowell's evening schools are good, much better than formerly,—so good, indeed, that it is an unpleasant duty to refer to any weak spots ; but the fact is the weak spots are there and it is of no use to try to hide the fact. The instruction is generally of a high order, but to this rule there are some exceptions. Every year a few inefficient teachers somehow contrive to get an appointment, and their pupils suffer the consequences. I heartily endorse the oft-repeated suggestion of the supervisor that some test should be applied to all candidates for positions in evening schools who have not already demonstrated their fitness by successful experience in teaching. I do not consider an examination a final test, by any means. Doubtless many could pass it who would make very poor teachers, but it would at least bar out the very ignorant and save the committee from the importunities of those who are manifestly unfit to teach. We now grant four grades of certificates of qualification to teach, but the fourth grade certificate, which can only be obtained by a candidate for a day school by passing an examination and graduating from the Training School, is given to any candidate for an evening school without examination, as a mere matter of form. I suggest the granting of another, a fifth grade certificate, for those who wish to teach in evening schools, and believe that if positions are restricted to the holders of such certificates, which should be obtained only by presenting some reasonable proof of fitness, we should in time build up a greatly improved corps of teachers for our evening schools.

EVENING DRAWING SCHOOLS.

Lowell's Free Evening Drawing School is a feature of our school system that can be duplicated in very few cities in the country. And of the few who have such schools at all, a still less number employ so high priced teachers or do such advanced work. This school has advanced classes in free hand mechanical and

architectural drawing, practical design, modeling and crayon work. The classes offer opportunities for art and industrial education of the best type, and their advantages are shared by over 400 young men and young women. The architectural and machine-drawing classes, which met in the Green school hall last year, have been able to return to their old quarters in the Mann school building this year, so that all the classes are at the same place. They occupy all the rooms of the building, some of which have been specially fitted up for their use this year. Attendance has been as follows :

SUMMARY FOR THE YEAR 1893.

CLASS.	Whole number of pupils on time book during term.			Average number of pupils belonging to the school.			Average Attendance.			Per cent of attendance.
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	
Architectural.....	93	....	93	53	....	53	40	....	40	75
Free-hand	38	62	100	26	44	70	18	27	45	64
Machine Drawing.....	132	....	132	93	....	93	65	....	65	70
Modeling.....	6	62	68	4	41	45	3	38	41	91
Practical Design.....	5	15	20	5	13	18	4	10	14	78
Totals.....	274	139	413	181	98	279	130	75	205	76

MILITARY INSTRUCTION.

The military instruction given the boys of the High School is increasingly popular with the students, who are begging for a chance to do extra drilling evenings or at other times out of school hours. The battalion did not take the first prize at the regimental meet in Malden last summer, and probably can never do so if required to drill as a battalion in competition with the few picked men of smaller schools. It was said, with what truth I do not know, that the companies from some cities had been doing a great deal of extra work in preparation for the competitive drill, but the

Lowell Committee on High School wisely decided that it would be better for the Lowell battalion to take second place at prize drills than to give to special preparation time which would detract from regular school work. The committee therefore passed a rule forbidding extra drill.

The battalion is now so large that the drill hall on Market street will accommodate only two companies at a time, so that while two hours per week are given to military instruction, each company really gets but one hour. The hour at which the drill is held is also the worst possible. Coming as it does, after the session of the school, the boys are tired, hungry and in a hurry to get home, so that it is a constant wonder that they take hold of the work with as much enthusiasm as they do. If military instruction is to be a permanent thing, as seems to be certain, a drill shed should be constructed over the canal just across the street from the school house. I am told that the Locks and Canals Company offer some objections to giving a location here, but the company, like all other good citizens, has the interests of the city at heart, and I am very sure that a satisfactory arrangement might be made if the matter was pushed and the great need of the drill hall was properly set forth. In the meantime, I recommend that the drills be held in Huntington Hall. The expense of changing the seats in the hall is considerable, but the advantages of a good hall close at hand where the drill can be at an hour which will best accommodate the school, are so considerable that I do not think the matter of expense should stand in the way.

The following rules made by the Committee on Military Instruction and adopted by the Board December 27, 1893, will undoubtedly increase the efficiency and promote the welfare of the battalion :

RULES RELATING TO PARADES AND PROMOTIONS.

The High School Battalion shall not parade with or without arms, or participate in any event as the above organization, without the permission in writing of the chairman and two other members of the Committee on Military Instruction ; and a copy of such permission shall be sent to the Secretary of the Board and by him entered upon the records.

Promotions shall be in the following order: Private, Color Guard, Corporal, Sergeant, Color Bearer (if large enough), Sergeant Major, Second Lieutenant, First Lieutenant, Captain.

Promotions for Corporal shall be according to rank in a competitive drill and examination, consisting of the position of the soldier, exercises, steps, facings, salutes, manual of arms, etc. All except Juniors shall be permitted to enter the competitive drill, and the judges shall be officers of the militia.

For Sergeants a written examination shall be held, consisting of questions selected by the Military Instructor, the subject matter to be the duties of the Private, Corporal and Sergeant. Promotions shall be according to rank, only third and fourth year boys being eligible.

For Commissioned Officers a written examination shall be held, consisting of questions selected by the Military Instructor, covering all the duties of the Commissioned Officer and Non-Commissioned Officer, and the duties pertaining to the command of a company. Promotions shall be according to rank.

The examinations shall be held under the supervision of the High School teachers, and only numbers shall be used to designate the students. The papers shall be turned over to the Military Instructor, marked by him, and handed to the Secretary of the School Board, who shall make a record of the same and place it in the hands of the Committee on Military Instruction.

PHYSICAL CULTURE.

The subject of physical culture in schools is so old that it antedates history. The Persians and Greeks, indeed, gave it a far greater prominence than has any nation of modern times. In this country it has received comparatively little attention until within the last few years. Now, however, no subject is exciting more interest. Scarcely a teachers' convention has been held for the last five years upon whose program it did not find a place, and our last county convention had no less than three papers upon this topic. In this revival of interest Lowell has shared, and while physical culture has always received some attention, it is probably true that it is now receiving more than ever before. The formal approval of the School Committee was given to it so long ago as to be time out of mind, but, in the Primary and Grammar schools at least, no particular system has been endorsed, no special teacher has been employed, and no definite time has been assigned to it. The result has been that some teachers have done much in this line, some have done little, and a few, probably, have done nothing at all. In the High School a special teacher of physical culture was employed four years ago, and the girls of the school have received regular and systematic instruction from her

each week ever since, the boys having their military drill at the same hours. In the Training School, physical culture has been made a regular subject of instruction for the pupil-teachers, and the graduates have all had systematic training in it. The work done in both these schools has been very popular, and this fact has probably helped to increase the interest in the subject.

Of the several systems of physical culture which are competing for popular favor the Swedish, or Ling, system is undoubtedly securing the greatest number of adherents. I have not myself been able to become as enthusiastic over it as perhaps I ought. It requires a standing position which is rigid and unnatural; its movements are angles and its motions jerks. The enlivening influence of music is rejected. There is no pretense of ease or grace about it anywhere, though it is claimed that it eventually produces both, somehow. It is, however, thoroughly systematic, every movement has a reason and a purpose, and the results seem to be good. I am, therefore, prepared to subordinate my own prejudices to the judgment of the many who are better able than I to judge, and I join the majority in welcoming the Ling system. And lest it should be supposed that this system is a new thing in Lowell, it should be said that all the marching exercises, fancy steps, etc., which have been taught at the Training School, are included in the Swedish system, though Miss Keyes has made them much more interesting by adding the rhythm of music; and that Mrs. Huntley has taught it at the High School, with some modifications and additions, for four years. A considerable number of teachers have recently employed a teacher of this system to instruct them and to assist them in training their pupils, and others have expressed a wish to do the same thing. This proof of interest justifies me, I think, in renewing here a recommendation which I made at the last meeting of the committee, that a special teacher of physical culture be employed.

In conclusion I wish to bear record to the faithfulness and efficiency of all co-workers. The Truant Officers have attended to their perplexing duties with zeal and discretion. They have at last, I am happy to say, a room in the new City Hall large enough to accommodate them. Their quarters in the old building were atrocious, and the place assigned to them in the new building was but little larger. Thanks to the Superintendent of Lands and Build-

ings they now have a good room in the basement, very near the Merrimack street entrance, just where it ought to be. The supply room is smaller than it should be, but it has been enlarged by the addition of the cubby-hole first assigned to the Truant Officers, and by close packing Mr. Williams has brought order out of the first chaos, and all requests of teachers for supplies receive prompt attention. Mr. John A. Smith has taken entire charge of the purchase of supplies, the collating of bills and pay rolls, and has been of very great assistance to me and of very great value to the department in many other ways.

The School Committee as a whole, and as individuals, have done all in their power to make my work a success. For official and moral support just as generous as in former years, and for a salary more generous than before, I desire to express my heartfelt gratitude.

Respectfully submitted,

A. K. WHITCOMB,

Superintendent of Schools.

REPORT OF THE TRUANT COMMISSIONERS FOR THE YEAR 1893.

1893.	Absentees.	105	17	1	4	0	5	132	1	1	0	6	2	183	12	
	Truants.	73	14	1	8	1	0	97	2	0	0	4	1	90	9	
	Working without certificate.	114	40	0	4	0	0	158	0	0	0	6	2	122	5	
	Wandering about the Streets.	74	22	0	5	0	2	103	0	0	0	2	1	126	8	
	New scholars.	196	89	11	0	0	6	302	13	8	5	6	4	171	3	
	Juvenile offenders.	57	14	1	5	0	4	81	6	5	1	8	2	224	4	
	Total number cases investigated.	..	..	..	..	..	..	..	..	..	..	..	..	265	..	
	Arrested.	August.....	..	..	..	..	..	..	..	..	..	..	..	33	..	
	Sentenced to Reform School.	September.....	68	17	0	6	0	1	92	1	1	0	6	1	141	3
	Placed on probation.	October.....	88	37	2	3	0	0	130	5	2	2	8	2	74	4
	Visited second time.	November.....	90	33	1	10	3	1	138	8	7	1	4	1	62	0
	Visited third time.	December.....	42	12	0	2	0	0	56	0	0	0	4	1	108	1
	Working certificates issued—(14 to 16 years of age.)	Totals.....	907	295	17	47	4	19	1289	36	27	9	58	18	1699	49
	Working certificates approved—(13 to 14 years of age.)															

Whole number of cases of Contagious Diseases reported by the Board of Health.

SCARLET FEVER.....	92
DIPHTHERIA.....	32
MEASLES.....	4
MEASLES.....	53

TOTAL..... 181

Appendix.

ROLL OF TEACHERS.

Giving Name, Grade, Residence, Date of Election, and Salary.

HIGH SCHOOL.

KIRK AND ANNE STREETS.

FRANK F. COBURN, Principal, <i>Science</i> , 281 E. Merrimack St.,	1880	\$2,500
FRANK B. SHERBURNE, <i>Language</i> , 58 Dover St.	1883	2,000
CYRUS W. IRISH, <i>Science</i> , 19 Mt. Vernon St.	1885	2,000
MARY A. WEBSTER, <i>Language and Mathematics</i> , 45 Varney St.,	1859	900
ELIZABETH McDANIELS, <i>Literature</i> , 408 E. Merrimack St. .	1868	800
CHARLOTTE E. DRAPER, <i>Language and Science</i> , Belmont Ave., Cor. Talbot St., ...	1870	800
ALICE J. CHASE, <i>Science and Language</i> , 205 Fairmount St. .	1877	800
SUSIE L. D. WATSON, <i>Language and Mathematics</i> , 31½ Dutton St.,	1885	800
ADELAIDE BAKER, <i>Language</i> , 98 Sixth St.	1885	800
JENNIE L. ALLEN, <i>Science</i> , 947 Middlesex St.	1885	800
MAUD HADLEY, <i>Mathematics</i> , 204 Tenth St.	1887	800
EMMA L. BRADLEY, <i>Language</i> , 485 Westford St.	1890	800
GERTRUDE A. RODLIFF, <i>English</i> , South Chelmsford, Mass. .	1890	800
MARIETTA CASSIDY, <i>Language</i> , 4 Fifth Ave.	1890	800
GEORGIANNA F. VINTON, <i>English</i> , 52 Fourth St.	1872	700
GRACE M. GOODHUE, <i>History and Mathematics</i> , 120 School St. .	1893	650
HENRY H. HARRIS, <i>Language</i> , 26 Massachusetts corporation .	1893	800
JAMES L. MELLEN, <i>Language</i> , 100 Fayette St.	1893	800
FRANK M. BROGAN, <i>History</i> , 724 Suffolk St.	1893	800

BARTLETT GRAMMAR SCHOOL.

CORNER OF HANCOCK AVENUE AND CLARK STREET.

CYRUS A. DURGIN, Master, 78 Varney St.	1891	\$1,400
MARY B. KENT, 1st and 2d, 818 Merrimack St.	1859	600
ABBIE E. FRENCH, 3d and 4th, 349 Beacon St.	1874	600
BELLE F. BATCHELDER, 5th and 6th, 66 Arlington St. . . .	1883	600

BELLE A. PRESCOTT, 7th and 8th, 68 Mt. Washington St.	1878	600
MARY I. HOWE, 9th, 84 Methuen St.	1873	600
FRANCES M. TALBOT, 10th, 121 A St.	1882	600
AMY L. TUCKE, 11th, 78 Varney St.	1880	600
LOLA CHENEY, 12th, 266 Worthen St.	1882	600

MORRILL SCHOOL.

COMMON AND ADAMS STREETS.

ELLEN F. COUGHLAN, Prin., 3d and 4th, 203 Cross St.	1853	\$650
NELLIE M. BROWN, 1st and 2d, 426 Fletcher St.	1865	600
ANNIE M. COURTNEY, 5th, 24 Lagrange St.	1887	600
CHARLOTTE E. BROWN, 6th, 426 Fletcher St.	1870	600

SCHOOL STREET SCHOOL.

SCHOOL STREET, BETWEEN PAWTUCKET AND BOWERS STREETS.

EUGENIA L. HOGAN, Prin., 1st, 2d and 3d, 21 Gold St.	1889	\$625
FANNIE A. HARDY, 4th, 5th and 6th, 20 West Sixth St.	1890	600

CROSS STREET SCHOOL.

CROSS STREET, BETWEEN FLETCHER AND MT. VERNON STREETS.

SARAH E. SCALES, Prin., 1st and 2d, 28 Ralph St.	1866	\$650
ELLEN M. WHITE, 3d and 4th, Hanks St.	1863	600
ETHEL G. WHEELER, 5th and 6th, 503 Moody St.	1889	600
KATHERINE KELLY, 5th, 182 Tremont St.	1893	450

BUTLER GRAMMAR SCHOOL.

GORHAM STREET.

CORNELIUS F. CALLAHAN, Master, 5 Fenwick St.	1884	\$2,000
ALBERTIE T. LANE, 1st and 2d, 40 Walnut St.	1889	600
LAURA F. HOWE, 3d and 4th, 166 Stackpole St.	1856	600
NELLIE F. KEEFE, 5th and 6th, 41 Cedar St.	1879	600
NELLIE F. MURPHY, 7th and 8th, 21 Sherman St.	1878	600
MARGARET T. MCCARTHY, 5th, 6th, 7th and 8th, 647 Market St.,	1890	600
KATE E. KELLEY, 9th and 10th, 97 Moore St.	1883	600
ANASTASIA C. CORBETT, 9th and 10th, 32 Highland St.	1887	600
DELIA T. BRADY, 11th and 12th, 375 Central St.	1883	600
MARY L. MCSORLEY, 11th and 12th, 20 Ash St.	1879	600
MARY I. DONLAN, 7th and 8th, 522 Gorham St.	1890	600
AGNES M. FOLEY, 9th, 10th, 11th and 12th, 31 Newhall St.	1887	600

LYON STREET SCHOOL.

CORNER OF LYON AND CENTRAL STREETS.

ALICE T. LEE, Prin., 1st and 2d, 1 South Walker St.	1878	\$650
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ANNABEL COSTELLO, 3d and 4th, 203 Nesmith St.	1888	600
MARY J. McCARRY, 4th and 5th, 23 Mead St.	1881	600
NELLIE A. HUNT, 6th, 48 Elm St.	1884	600

CARTER STREET SCHOOL.

CARTER STREET.

ISABELLE T. VINALL, Prin., 1st and 2d, 11 Simpson Pl.	1873	\$650
GEORGIA A. HARNDEN, 3d and 4th, Cor. Pleasant and Sher- man Sts.	1885	600
CORNELIA M. DAVIS, 5th and 6th, 50 Rock St.	1871	600

AGAWAM STREET SCHOOL.

CORNER OF AGAWAM AND BARRINGTON STREETS.

MARY McLAUGHLIN, Prin., 1st and 2d, 538 Lawrence St.	1870	\$650
ANNIE M. LEE, 5th and 6th, 1 South Walker St.	1885	600
MARY A. FAY, 5th and 6th, 94 Stackpole St.	1889	600

LONDON STREET SCHOOL.

CORNER OF LONDON AND WEST STREETS.

LIZZIE R. MAGUIRE, Prin., 1st, 2d and 3d, 41 Hampshire St.	1884	\$650
ALICE A. MASTERSON, 4th, 5th and 6th, Oaklands	1892	500
MINNIE F. HILL, 4th, 5th and 6th, 203 Thorndike St.	1887	600

WEED STREET SCHOOL.

CORNER OF WEED AND GORHAM STREETS.

MARY B. McGOVERN, Prin., 1st and 2d, 31 Pearl St.	1886	\$650
LILLA M. McEVoy, 3d and 4th, 133 Moore St.	1893	450
MARY J. CARMICHAEL, 5th and 6th, 13 Whipple St.	1893	450

LOWELL TRAINING SCHOOL.

Telephone 531-3.

CHARLES AND LAWRENCE STREETS.

KATHARINE T. KEYES, Temp. Prin., 511 Market St.	1889	\$1,300
ALICE M. CLARKE, 2d Assistant, 46 Chapel St.	1878	800
MABEL W. EWINGS, 3d Assistant, 102 Stackpole St.	1891	800
ADDIE B. MERRILL, 981 Bridge St.	1892	600
HELEN M. SHEAN, 84 South Whipple St.	1891	600

CENTRAL STREET SCHOOL.

CENTRAL STREET, OPPOSITE HUDSON STREET.

ELIZA COWLEY, Prin., 1st and 2d, 420 Lawrence St.	1857	\$650
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CHARLOTTE McDANIELS, 3d and 4th, 158 E. Merrimack St.	1878	600
KATE J. LAWLER, 4th and 5th, 104 High St.	1885	600
LILLA J. GREENHALGE, 6th, 83 Nesmith St.	1871	600

CHAPEL STREET SCHOOL.

CHAPEL STREET, OPPOSITE POLLARD STREETS.

KATE E. McOWEN, Prin., 1st, 2d and 3d, 30 Linden St.	1882	\$625
MARY A. FARNHAM, 4th, 5th and 6th, 90 Gates St.	1887	600

COTTAGE STREET SCHOOL.

CORNER COTTAGE AND CHAPEL STREET.

ROSE E. McVEY, Prin., 1st, 2d and 3d, 38 Linden St.	1887	\$625
MAGGIE A. HARRAHAN, 4th, 5th and 6th, 32 Marshall St.	1882	600

AMES STREET SCHOOL.

CORNER OF LAWRENCE AND AMES STREETS.

AMANDA M. HADLEY, Prin., 1st, 89 Washington St.	1870	\$650
KATE F. MURPHY, 2d, 3d and 4th, 1 Carter Pl.	1885	600
MARY E. DREW, 5th and 6th, 36 Wamesit St.	1868	600
LIZZIE M. HADLEY, 6th, 72 Grand St.	1869	600

CHARLES STREET SCHOOL.

CHARLES STREET, BETWEEN GORHAM AND CHAPEL STREETS.

ALICE T. OWENS, Prin., 1st and 2d, 45 Walnut St.	1878	\$650
ELLA E. GARDNER, 3d, 6 Lombard St.	1871	600
ANNIE E. SLAVIN, 4th, 259 South St.	1887	600
MARGARET J. KING, 5th and 6th, 172 Stackpole St.	1891	600

EDSON GRAMMAR SCHOOL.

HIGHLAND STREET.

C. W. BURBANK, Master, 130 Bowers St.	1872	\$2,000
FRANCES M. WEBSTER, 1st and 2d, 45 Varney St.	1873	600
ROSALIE T. BURNS, 3d and 4th, 174 Stackpole St.	1878	600
AGNES L. DONOGHUE, 5th, 22 Royal St.	1887	600
MARY F. WARD, 6th and 7th, 220 Fletcher St.	1893	450
MARY L. KEITH, 8th, 246 Appleton St.	1890	600
FANNIE A. SCRIPTURE, 8th and 9th, 269 Central St.	1873	600
SARAH J. CROSBY, 10th, 339 Gorham St.	1868	600
BERTHA M. ROWLANDSON, 10th, Cor. Holyrood Avenue and Hovey St.	1891	600
MARY A. BALCH, 11th and 12th, 242 Appleton St.	1865	600
KATE J. HAYES, 12th, 13 Floyd St.	1879	600
MARGIE F. MARREN, 12th, 47 Mt. Vernon St.	1886	600

ELIOT SCHOOL.

CORNER FAVOR AND SUMMER STREETS.

ELLEN A. STILLINGS, Prin., 4th and 5th, 24 Bellevue St.	1875	\$650
ELLEN A. CORBETT, 1st and 2d, 32 Highland St.	1878	600
NELLIE T. O'GRADY, 3d, 59 Newhall St.	1881	600
LOYOLA McCANN, 6th, 64 Tyler St.	1893	450

HOWARD STREET SCHOOL.

HOWARD STREET, BETWEEN CHELMSFORD AND HALE STREETS.

ELLEN A. BRIDGE, Prin., 1st and 2d, 9 Tyler St.	1857	\$650
MARION E. GREENE, 3d and 4th, 143 Howard St.	1884	600

GRAND STREET SCHOOL.

(Howard Street Annex.)

GRAND STREET, BETWEEN WESTFORD AND MIDDLESEX STREETS.

JENNIE M. BENNETT, 5th, 360 Westford St.	1885	\$600
MINNIE A. WILSON, 6th, 26 Cambridge St.	1887	600

GREEN GRAMMAR SCHOOL.

MERRIMACK STREET.

A. L. BACHELLER, Master, 43 Arlington St.	1874	\$2,000
RUTH B. BAILEY, 1st and 2d, 514 Moody St.	1871	600
CLARA A. HANAFORD, 3d and 4th, 191 Pawtucket St.	1869	600
LIZZIE A. NOLAN, 5th and 6th, 185 Pawtucket St.	1876	600
JENNIE E. FAY, 7th and 8th, 94 Stackpole St.	1891	600
KATE F. CASSIDY, 9th and 10th, 4 Fifth Ave.	1883	600
LENA A. GOOKIN, 9th and 10th, 5 Walden St.	1880	600
CARRIE A. MILES, 8th and 11th, 38 Middlesex St.	1882	600
ELLA J. CARLETON, 11th and 12th, 1072 Bridge St.	1882	600
KATE F. MCCARTHY, 11th and 12th, 647 Market St.	1889	600

KIRK STREET SCHOOL.

CORNER KIRK AND LEE STREETS.

ELIZA A. DAVIS, Prin., 1st, 2d and 3d, 50 Rock St.	1881	\$625
LAURA H. PALMER, 4th, 5th and 6th, 639 Bridge St.	1882	600

CABOT STREET SCHOOL.

CORNER CABOT AND FORD STREETS.

NELLIE T. GILDAY, Prin., 5th and 6th, 32 Varney St.	1886	\$650
MARTHA A. NEAL, 5th and 6th, 23 Dodge St.	1847	600
MARY J. MURPHY, 3d and 4th, 34 Jefferson St.	1887	600
ABBIE V. WHEELER, 1st and 2d, 503 Moody St.	1879	600

CHEEVER STREET SCHOOL.

CHEEVER STREET.

IDA J. CLARKE, Prin., 3d and 4th, 821 Merrimack St. . .	1887	\$650
KATHERINE T. LENNON, 1st and 2d, Cor. Bowers and School Sts.	1885	600
MARY E. MEEHAN, 5th and 6th, 215 Worthen St. . . .	1891	600
ANNA A. SARGENT, 5th and 6th, 454 Westford St. . .	1864	600

WORTHEN STREET SCHOOL.

WORTHEN STREET BETWEEN MARKET STREET AND BROADWAY.

MARY L. HILL, Prin., 1st and 2d, 228 Worthen St. . .	1858	\$650
ESTHER V. GREEN, 3d and 4th, 188 Cross St.	1889	600
MARY J. ALGER, 5th and 6th, 9 Tyler St.	1868	600
MARY R. MARREN, 5th and 6th, 47 Mt. Vernon St. . .	1890	600

HIGHLAND GRAMMAR SCHOOL.

(Telephone 366-3.)

WEST PINE STREET.

CHARLES W. MOREY, Master, 14 Belmont St.	1880	\$2,000
FLORA I. MOFFITT, 1st and 2d, 43 Tyler St.	1887	600
MARY F. FOSS, 1st and 2d, 215 Stevens St.	1891	600
ABBIE F. WOODWARD, 3d and 4th, 165 Branch St. . . .	1869	600
ESTELLE L. WHITNEY, 3d and 4th, 101 Chapel St. . . .	1885	600
ADELAIDE F. BENNETT, 5th and 6th, 126 Walker St. . .	1882	600
NELLIE A. COBURN, 5th and 6th, 21 South Walker St. . .	1886	600
LUELLA A. WARDWELL, 7th and 8th, 539 School St. . .	1870	600
MINNIE C. GRAY, 7th and 8th, 106 Liberty St.	1890	600
FANNIE M. CLARK, 9th and 10th, 539 School St. . . .	1874	600
EDITH L. MONROE, 9th and 10th, Billerica, ...	1885	600
HARRIET B. FRYE, 11th and 12th, 26 Walker St. . . .	1882	600
CARRIE M. SPRAGUE, 11 and 12, 147 Howard St.	1890	600

HIGHLAND ANNEX.

ELLEN L. FLOYD, 7th and 8th, 124 Stevens St.	1887	\$600
ARVILLA L. READER, 9th and 10th, 216 Appleton St. . .	1871	600
GRACE F. WARD, 11th and 12th, 202 Appleton St. . . .	1893	450

FRANKLIN SCHOOL.

CORNER BRANCH AND MIDDLESEX STREETS.

SARAH C. FISKE, Prin., 1st and 2nd, 246 Appleton St. . .	1866	\$650
LIZZIE S. LOWE, 3d and 4th, 13 Nichols St.	1857	600
MARION J. STEVENSON, 5th, 63 Princeton St.	1878	600
KATE G. JONES, 6th, 49 Andover St.	1880	600

PLAIN STREET SCHOOL.

CORNER PLAIN AND POWELL STREETS.

LAURA E. LEE, Prin., 4th, 5th and 6th, 189 Grand St.	1873	\$625
FLORA H. SPRAGUE, 1st, 2nd and 3rd, 14 School St.	1882	600

DOVER STREET SCHOOL.

DOVER STREET, BETWEEN MIDDLESEX AND GROVE STREETS.

CLARA B. HORNE, Prin., 1st and 2nd, 20 So. Highland St.	1877	\$650
CLEMENTINE H. BOWERS, 3rd and 4th, 18 Loring St.	1876	600
BERTHA GARDNER, 5th and 6th, 32 Robbins St.	1887	600

MIDDLESEX VILLAGE SCHOOL.

HATTIE F. WAKEFIELD, ungraded, 2 Loring St.	1889	625
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POWELL STREET SCHOOL.

POWELL STREET NEAR LIBERTY STREET.

VIOLA A. HAMBLET, Prin., 4th, 5th and 6th, 60 School St.	1876	\$625
CARRIE J. BAILEY, 1st, 2nd and 3rd, 16 Loring St.	1884	600

MOODY GRAMMAR SCHOOL.

CORNER HIGH AND ROGERS STREETS.

WILLIAM S. GREENE, Master, 263 Westford St.	1883	\$2,000
MERCENA F. WHITEHORN, 1st and 2nd, 519 Beacon St.	1877	600
CARRIE A. PAUL, 1st and 2nd 9 Huntington St.	1891	600
CARRIE E. ERSKINE, 3rd and 4th, 138 Mt. Vernon St.	1893	450
ELIZABETH W. FROST, 5th and 6th, 132 E. Merrimack St.	1857	600
ELLA M. BREEN, 7th and 8th, 23 Marsh St.	1893	450
FRANCES E. GARITY, 9th and 10th, 34 Read St.	1874	600
FRANCES E. HARDMAN, 9th and 10th, 205 Fairmount St.	1873	600
MAUD A. JONES, 11th and 12th, 259 Gorham St.	1893	450

POND STREET SCHOOL.

CORNER HIGH AND POND STREETS.

MARIETTA HILL, Prin., 1st and 2nd, 122 Stackpole St.	1870	\$650
WINNIFRED HAGGERTY, 3rd and 4th, 16 Huntington St.	1884	600
LIZZIE A. MOLLOY, 5th and 6th, 97 High St.	1887	600

HIGH STREET SCHOOL.

HIGH STREET, BETWEEN CHESTNUT AND EVERETT STREETS.

CLARA A. EMERSON, Prin., 1st, 2nd and 3rd, 201 Appleton St.,	1869	\$625
ELIZABETH WORTHLEY, 4th, 5th and 6th, 21 Canada St.	1891	600

FAYETTE STREET SCHOOL.

FAYETTE STREET, BETWEEN CHESTNUT AND EVERETT STREETS.

HELEN KOHAWN, Prin., 1st, 2nd and 3rd, 17 Thirteenth St.	1877	\$625
AGNES T. FAY, 4th, 5th and 6th, Tenth St.	1891	600

SYCAMORE STREET SCHOOL.

SYCAMORE STREET.

ALICE B. BESSE, ungraded, Rogers St.	1891	\$625
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PAWTUCKET GRAMMAR SCHOOL.

MAMMOTH ROAD, PAWTUCKETVILLE.

WILLIAM P. BARRY, Master, 268 Suffolk St.	1887	\$2,000
NELLIE McDONALD, 1st, 2nd, 3rd and 4th, 120 School St.	1878	600
CARRIE M. HART, 5th and 6th, 16 Varney St.,	1887	600
LIZZIE A. HART, 7th and 8th, 16 Varney St.	1886	600
JULIA M. HEALEY, 9th and 10th, 108 Bowers St.	1870	600
EFFIE I. MARSHALL, 11th and 12th, 28 Riverside St.	1887	600

MAMMOTH ROAD SCHOOL.

PAWTUCKET SCHOOL BUILDING.

ELLEN M. HOLDEN, Prin., 1st, 2nd and 3rd, Eighth Avenue Pawtucketville	1876	\$650
NELLIE F. DAVIDSON, 4th and 5th, 20 Lombard St.	1891	600
JEANETTE T. COSTELLO, 6th, 203 Nesmith St.	1893	450

VARNUM AVENUE SCHOOL.

VARNUM AVENUE.

—————, ungraded, —————	—————	—————
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VARNUM GRAMMAR SCHOOL.

MYRTLE STREET, CENTRALVILLE.

GEORGE W. HOWE, Master, 84 Methuen St.	1880	\$2,000
ELIZABETH C. KENNEDY, 1st and 2d, 42 Eighteenth St.	1884	600
HARRIET F. BRADLEY, 3d and 4th, 62 Fourth St.	1854	600
MARY F. WING, 5th and 6th, 99 Third St.	1879	600
GRACE SCRIBNER, 6th and 7th, 190 Liberty St.	1793	450
SARAH A. BRADLEY, 7th and 8th, 555 Bridge St.	1857	600
MARIA W. ROBERTS, 8th and 9th, 128 Third St.	1875	600
ALICE R. KEESE, 9th and 10th, 41 Sanborn St.	1881	600
FANNIE HARDMAN, 10th and 11th, 123 Agawam St.	1893	450
ROSA A. DOWD, 11th and 12th, 237 Tenth St.	1884	600
JULIA WILLIAMS, 11th and 12th, 640 Bridge St.	1886	600
ELIZABETH F. GARA, 11th and 12th, 31 Stackpole St.	1893	450

WEST SIXTH STREET SCHOOL.

WEST SIXTH STREET, BETWEEN COBURN AND JEWETT STREETS, CENTRALVILLE.

STELLA J. ALLEN, Principal, 1st and 2d, 115 Third St.	. . .	1879	\$650
HATTIE A. PALMER, 2d and 3d, 12 E. Merrimack St.	. . .	1888	600
MARION S. KEYES, 4th and 5th, 102 Third St.	. . .	1888	600
LIZZIE F. LAMERE, 5th and 6th, 829 Bridge St.	. . .	1885	600

TENTH STREET SCHOOL.

CORNER TENTH AND VARNUM STREETS, CENTRALVILLE.

MARY F. BEANE, Principal, 1st, 212 Tenth St.	. . .	1879	\$650
FANNIE H. MURPHY, 2d and 3d, 42 Twelfth St.	. . .	1889	600
ALICE A. HOLTHAM, 4th and 5th, 1107 Bridge St.	. . .	1887	600
ELLA A. BAILEY, 6th, 614 Bridge St.	. . .	1889	600

LAKEVIEW AVENUE SCHOOL.

LAKEVIEW AVENUE, CENTRALVILLE.

MARIETTA F. CROWLEY, Principal, 1st and 2d, 23 Marion St.	. . .	1879	\$650
HATTIE S. SIMPSON, 3d and 4th, 80 Third St.	. . .	1887	600
MARGARET J. McCLUSKEY, 5th, 161 Lakeview Ave.	. . .	1890	600
AGNES T. COURTNEY, 6th, 227 School St.	. . .	1891	600

FOURTH STREET SCHOOL.

HELEN M. BROWN, ungraded, Bridge St.	. . .	1888	\$625
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TEACHER OF PENMANSHIP.

THOMAS M. GRAVES, 64 Beech St.		1883	\$1,250
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MUSICAL DIRECTOR.

WALTER E. OWEN, 41 Oak St.		1886	\$1,250
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TEACHER OF DRAWING.

OLIVE E. UNDERHILL, 51 Branch St.		1887	\$1,250
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TEACHER OF SEWING.

IDA J. FLINT, 142 Liberty St.		1880	\$800
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MILITARY INSTRUCTOR.

ALEXANDER GREIG, Jr., 38 Cambridge St.		1891	\$250
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TEACHER OF PHYSICAL CULTURE.

EMMA M. HUNTLEY, Bellevue St.			
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CENTRALVILLE KINDERGARTEN.

PARKER BLOCK, BRIDGE STREET.

NETTIE M. CONANT, Principal, 21 Osgood St.	1892	\$500
MARY A. CRONIN, Assistant, cor. Fletcher and Cross Sts.	1893	350

DOVER STREET KINDERGARTEN.

ELIZABETH A. WILSON, 77 Dover St.	1893	\$350
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MOODY SCHOOL KINDERGARTEN.

MARY C. WALKER, Principal, 100 Appleton St.	1893	\$500
ELLA L. PRATT, Assistant, Reading, Mass.	1893	350

TRAINING SCHOOL KINDERGARTEN.

ANNA W. DEVEREAUX, Principal and Supervisor, 127 Summer St.	1892	\$800
MABEL D. NICKERSON, Assistant, 33 Nesmith St.	1893	350

PAWTUCKETVILLE KINDERGARTEN.

E. BELLE PERHAM, Principal, 100 Riverside St.	1893	\$500
ELLEN J. PIPER, Assistant, 27 Canada St.	1893	350

TRAINING SCHOOL GRADUATES.

PRIMARY.

Malvina Lamere, 290 Bridge st.	Lena H. Penn, 188 London st.
Lillian C. Wholey, 359 Stevens st.	Mary A. Meehan, 12 Agawam st.
Gertrude Allen, 35 Hampshire st.	Alice I. Smith, 69 Nichols st.
Adelaide Crowley, 115 Fort Hill ave.	A. Gertrude Stiles, 72 Varney st.
Margaret J. Connors, 10 Pollard st.	Annie M. Robbins, 62 Twelfth st.
Alice C. Greene, 143 Howard st.	Blanche A. Cheney,
Anna A. Burnham, 32 Lane st.	cor. Bridge and Nineteenth sts.
Mary M. Kearney, 94 Andrews st.	Ellen A. O'Connell, 9 Meade st.
Martha Rogers, 131 Cumberland rd.	Margaret A. Kennedy, 9 Brooks st.
Susan G. Neilon, 135 Andrews st.	Rose E. Donnelly, 15 Hudson st.
Mary J. Callahan, 117 Durant st.	Mary V. Johnson, 101 Prince st.
Annie E. Donovan, 26 Madison st.	Mary T. Whelley, 68 Fenwick st.
Lillian L. Sproat, 25 Mass. corp.	Elizabeth G. Lawler, 104 High st.
Annie E. King, 223 Stackpole st.	Helen A. Drury, 26 Union st.
	Helen M. Osgood, 201 School st.

GRAMMAR.

Mary E. Lane, Billerica.	Winnifred M. Kneeland, 30 Linden st.
Ella E. Prescott, 210 Cross st.	Kate M. Usher, cor. Parker and Walden sts.
Harriet F. Adams, 35 Nineteenth st.	Harriet B. Witherell, 247 Appleton st.
Grace W. Balch, 434 Westford st.	Elizabeth G. Morgan 28 C st.
Ada E. Hoole, 73 Warren st.	Mary A. Gorman, 76 Charles st.
Jennie S. Noble, 4 Carter pl.	Leonora K. Battles, So. Chelmsford.
Katherine L. Walsh, 5 Watson st.	Lizzie F. Blandin, 61 Durant st.
Margaret M. Sparks, 90 So. Whipple st.	Grace G. Marren, 66 Linden st.
Annie S. Chase, 19 Robinson st.	

SALARIES OF TEACHERS.

HIGH SCHOOL.

Principal	\$2,500 00
Male Assistants	2,000 00
First Female Assistant	900 00
Other Female Assistants, first year	650 00
Assistants, second year	700 00
Assistants, third year	800 00
Male Assistants	800 00

GRAMMAR SCHOOLS.

Principals (males)	\$1,300 00 to \$2,000 00
Assistants, first year	450 00
Assistants, second year	500 00
Assistants, third year and after	600 00
Teacher of Penmanship	1,250 00
Teacher of Drawing	1,250 00
Teacher of Music	1,250 00

PRIMARY SCHOOLS.

Teachers, first year	\$450 00
Teachers, second year	500 00
Teachers, third year and after	600 00
Principals of two rooms, extra	25 00
Principals of three or more rooms, extra	50 00

TRAINING SCHOOL.

Principal	\$1,300 00
First Assistant	900 00
Second Assistant	800 00
Third Assistant	800 00

TEMPORARY TEACHERS.

Male teachers, for every school-day's service	\$3 00
Female teachers in High School, for every school-day's service	1 75
Female teachers in other schools, for every school-day's service	1 25
Graduates of Training School, after three months' service	2 25

EVENING SCHOOLS.

Principals, High School, per evening	\$5 00
Principals, Elementary, per evening	2 00
Assistants, High School, per evening	2 00
Female assistants, Elementary schools, per evening	1 25

TEXT-BOOKS USED IN THE PUBLIC SCHOOLS.

PRIMARY SCHOOLS.

First Reader, New Franklin Series.	Monroe's Reading Charts.
Second Reader, " " "	Primary Music Reader.
Advanced Second Reader, " "	Normal Music Chart.
Franklin Primary Arithmetic.	Blaisdell's Physiology.

GRAMMAR SCHOOLS.

Third Reader, New Franklin Series.	Scudder's History of the United States.
Fourth Reader, " " "	Worcester's New Pronouncing Speller.
Intermediate Reader, " "	Worcester's Comprehensive Dictionary.
Fifth Reader, " "	Thomson's Intellectual Arithmetic.
Bradbury's Eaton's Practical Arithmetic.	Spencerian Writing Books.
Patterson's Grammar.	Prang's Drawing Books.
Tarbell's Lessons in English.	Goodrich's Child's Book of United States History.
Butler's Elementary Geography.	Fourth Abridged Music Lessons.
Butler's Grammar School Geography, New England Edition.	Intermediate Music Reader.
Scudder's Short History of the United States.	New National Second Music Reader.
Blaisdell's Physiology.	Meservey's Book-keeping.

HIGH SCHOOL.

Allen and Greenough's Latin Grammar.	Kellogg's Rhetoric.
Leighton's Latin Lessons.	Arnold's English Literature.
Allen and Greenough's Cæsar.	Underwood's Hand-Book of American Authors.
Allen and Greenough's Virgil.	Selected American Poems.
Allen and Greenough's Cicero.	Selected Ballads and Lyrics.
Allen and Greenough's Ovid.	Swinton's Outlines of History.
Allen's Latin Composition.	Curnow's History of England.
White's Latin Lexicon.	Leighton's History of Rome.
Goodwin's Greek Grammar.	Pennell's History of Greece.
White's Greek Lesson's.	Pennell's History of Rome.
Goodwin's Greek Reader.	Martin's Civil Government.
Homer.	Winslow's Intellectual Philosophy.
Liddell and Scott's Greek Lexicon (abridged).	Cooley's Natural Philosophy.
Bocher's Otto's French Grammar.	Avery's Natural Philosophy.
Super's French Reader.	Sharpless & Phillips' Astronomy.
Fisher's Easy French Readings.	Avery's Chemistry.
Bocher's College Plays.	Eliot and Storer's Manual of Chemistry.
Heath's French Dictionary.	Eliot and Storer's Qualitative Analysis.
Otto's German Grammar.	Dana's Geological Story.
Otto's German Reader.	Gray's Botany.
Methode Berlitz.	Walker's Physiology.
Adler's German Dictionary.	Warren's Physical Geography.
Eaton's Practical Arithmetic.	Tozer's Classical Geography.
Wentworth's High School Arithmetic.	Meservey's Book-keeping.
Bradbury-Emery Algebra.	Eichberg's Music Reader.
Bradbury's Trigonometry.	Stewart's Elementary Physics.
Davies' Surveying.	Todhunter's Algebra.
Meiklejohn's English Grammar.	Wentworth's Geometry.
Lockwood's Lessons in English Composition.	Bryce's Æneid (last six books).
Class Book of Prose and Poetry.	Shaw's Physics by Experiment.

COURSES OF STUDY.

PRIMARY SCHOOLS.

TIME TABLE.

In Minutes, per Week.

	1st Year.	2d Year.	3d Year.
Reading	700	610	570
Writing.....	60	60	60
Spelling	60	90	90
Language	75	75	75
Arithmetic.....	150	210	240
Drawing.....	60	60	60
Music.....	60	60	60
Geography.....	30	30	40
Nature Study.....	30	30	30
Physiology.....	25	25	25
* Manners and Morals.....	25	25	25
† Opening Exercises.....	25	25	25
‡ Recesses and Physical Training.....	200	200	200
Total.....	1500	1500	1500

* Required by State Law ; time fixed at five minutes each day by vote of the School Committee.

† See Sec. 22, Chap. III., of the Rules of the School Committee.

‡ See Sec. 23, Chap. III., of the Rules. If for any reason a recess is shortened or omitted the time for the same should be given to physical exercises, and the hours for closing schools prescribed by the School Committee should not be changed.

The above table is intended as an approximate estimate of the relative importance of the different studies, and teachers are at liberty to vary the time for each study within such reasonable limits as circumstances may require.

FIRST YEAR.

FIRST HALF.

READING.—Teach by the sentence and word method, beginning with script letters on the blackboard, and later using the Monroe Charts and the first lessons in the First Reader. Employ phonic analysis to secure distinct articulation and assist in the recognition of new words. Secure naturalness of expression by making sure that no sentence is spoken until the thought is fully comprehended. Consult Miss Spear's "Preparing to Read," Calkins's "From Blackboard to Books," and Miss Badlam's "Suggestive Lessons in Language and Reading."

WRITING.—Words and letters on ruled slates from blackboard copy.

SPELLING.—Words of the reading lessons copied from the blackboard. After the letters of the alphabet are known, spelling from dictation may be begun, at the option of the teacher.

LANGUAGE.—Object: (1) To secure the confidence of the children and make them feel at home in school; (2) to increase their vocabulary; and (3) to accustom them to express their thoughts in simple and correct forms of speech.

Lead the children to talk freely about things with which they are familiar, and to reproduce short stories told them by the teacher. Require complete statements, correct forms of speech, and distinct articulation, using great care, however, that corrections are not made in a way to repel confidence or lessen interest. The importance of making children enjoy the first weeks of school life cannot be overestimated. Memory gems, brief maxims, and short selections of poetry, learned and recited in this and all succeeding grades.

ARITHMETIC.—Numbers from one to five, inclusive. Add, multiply, subtract, and divide, developing all processes by the aid of objects. Consult Wentworth and Reed's "First Steps in Number," and Baldwin's "Industrial Arithmetic," in this and all succeeding grades.

GEOGRAPHY.—Conversation lessons, preparatory to regular work in geography. Teach position, as above, below, on, under, front, back,

etc., and right and left as relative terms. Lead children to observe the temperature as warm, hot, or cold, and the weather as sunny, cloudy, or rainy. Consult Nichols' "Topics in Geography," Grade I.

NATURE STUDY.—Lessons to recognize and name a few common plants, animals and minerals, and to note single qualities of each. Teach only from observation and experiment. The object of nature study in primary grades is not so much the acquisition of facts as the training of the powers of observation and the development of an active interest in natural objects. Consult Prince's "Courses and Methods."

PHYSIOLOGY.—Oral lessons, teaching the names and uses of the external parts of the body, and the simplest rules of health. Consult Prince's "Courses and Methods," pages 173 and 195. The order of topics prepared by Dr. Dunton of the Boston Normal School, and printed on page 196 of the above mentioned book, may profitably be followed in this and all succeeding grades. Teach the effect of the use of alcoholic stimulants and narcotics as required by the laws of the state.

MANNERS AND MORALS.—As required by the Public Statutes of the Commonwealth and printed on page 27 of the Rules of the School Committee, in this and all succeeding grades. Mrs. Dewey's "How to Teach Manners," or Miss Wiggin's "Lessons on Manners," may serve as a manual.

MUSIC AND DRAWING.—Throughout the course as directed by the special teacher of each of those branches.

SECOND HALF.

READING.—Franklin First Reader and supplementary readers. Continue phonics, and teach the long and short sounds of the vowels. See that every phrase is spoken as a whole. In this, as in all the grades, the aim is to secure a full comprehension of the thought, natural expression, distinct articulation, correct pronunciation, and ready utterance.

If the last part of the First Reader proves too difficult for the first year, leave a part to be finished the second year.

WRITING.—Words and sentences from the blackboard, chart, and slips prepared for the purpose on slates and the paper spe-

cially ruled for primary work. If all the letters of the alphabet have not been learned by the pupil by the end of the year, unconsciously, give a little special instruction to accomplish this object.

SPELLING. — Words of the reading lesson copied from the blackboard, and afterwards spelled, orally or in writing, from dictation. Teach children to spell their own names, and the names of places or objects in which they are interested.

LANGUAGE. — Objects : To increase the pupils' stock of ideas and words, and to facilitate the expression of thought in correct forms of speech.

Conversational lessons as in the first half, carefully correcting all errors of expression. In this respect every lesson in this and all succeeding grades should be a language lesson. Begin writing short sentences, and teach the capital at the beginning of the sentence, the capital I, and the period and interrogation-mark.

ARITHMETIC. — Numbers, oral and written, to ten, inclusive. Use objects, but discard them gradually as facts are learned, and give much drill in applied and abstract work. Arabic and Roman notation to ten (and further, so as to enable pupils to tell page, lesson, and paragraph in the reading book, at the option of the teacher), and the signs $+$, $-$, $\times$, $\div$, $=$. Teach, objectively, the fractions $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$; coins from one cent to ten cents; pint, quart, inch.

GEOGRAPHY. — Teach cardinal points, with practical application to objects in the school-room, the school-yard, and streets near the school-house. Have children draw plans of desk, and locate objects on them, and use an outline of the school-room drawn upon the blackboard by the teacher for the same purpose.

Give easy conversation lessons at appropriate times on natural objects and phenomena, as sun, clouds, rain, snow, etc.

NATURE STUDY. — Lessons as in the first half. Teach only the most general and obvious features, and assist pupils to find out all facts for themselves as far as possible. Whenever practicable, provide specimens for all the pupils. Encourage the children to make collections.

PHYSIOLOGY. — As in the first half. In connection with names and uses, teach the proper care of the hair, teeth, nails, etc. Do

not try to teach too much ; only general facts which are mainly within the range of the pupils' observation are wanted. Show importance of cleanliness, exercise, proper clothing, good food, pure air, etc., in this and all succeeding grades.

SECOND YEAR.

FIRST HALF.

READING. — The first half of the Franklin Second Reader, and supplementary readers. The fault to be most carefully avoided in this and all succeeding grades of the primary course is haggling over words. To prevent this, all new and difficult words should be pronounced and their meanings explained before oral reading is begun. Then, by questioning, make sure that the pupil fully understands every sentence before he reads it. Make haste slowly, and give pupils much easy reading, rather than a little which is difficult.

WRITING. — Words and sentences as in the first year, and from dictation. Use capitals and the period and question-mark.

SPELLING. — Words of the reading lesson written on black-board by teacher, copied by pupils, and afterwards written from dictation or spelled orally, or both. Teach also the spelling of some proper nouns, as days of the week, etc.

LANGUAGE. — Object : To stimulate thought, to cultivate the powers of observation and imagination, and to develop facility in the use of good English.

Oral and written exercises. Use for material such objects and topics as will furnish the best opportunity for the expression of thought, and make sure that the pupil always has the thought clearly in mind before he is required, or even allowed, to say or write anything. Train observation by noting qualities and uses of objects, and the imagination by stories suggested by pictures. In connection with sentences written from dictation, teach capitals and a few common abbreviations.

ARITHMETIC. — Numbers, oral and written, in separations and combinations, to twenty. Objects may be used if necessary, but

ought not to be greatly needed. Continue drill in applied and abstract work. Simple operations in small fractions and in denominate numbers also continued. Teach pupils to read the signs +, —, etc., and to use them as well as know their meaning. Form and read tables to the limit of known numbers in this and all succeeding grades.

GEOGRAPHY. — Continue drill in cardinal directions, applying the terms north, south, etc., to all objects near enough to the school-house to be within the range of the child's observation or knowledge. Apply same to direction of wind. Repeat plan of desk, by pupils, and of room or yard by teacher, and speak of the plans as "maps," but do not require definitions. Continue study of objects within vision, as cloud, dew, ice, fog, etc.

NATURE STUDY. — Work of the first year continued and extended. Find properties of common minerals and note their uses. Of plants name parts, as stem, leaf, bud, etc. Name parts and note habits of animals, birds, insects, etc. Remember that no lesson is worth giving which does not thoroughly interest the pupil at the time, and tend to increase his regard for the natural objects which are all about him. Have pupils draw and describe, orally and in writing. In this year read Wood's "First Natural History Reader," and Wright's "Seaside and Wayside, No. 1."

PHYSIOLOGY. — The senses: the eye and sight; the ear and hearing. Teach only the most general features, any thorough study of the anatomy of the eye or ear being wholly out of place. Teach by observation, and experiment as far as possible. Temperance teaching as before.

SECOND HALF.

READING. — Franklin Second Reader, completed. Phonic drill continued. If pupils cannot easily complete the Second Reader, omit the last part, and substitute easy reading from supplementary readers.

WRITING. — On slates and ruled paper, with pencils, from blackboard copy, from dictation, and from print as found in the reading book.

SPELLING. — As in the first half. Have words used in sentences. Teach the spelling of terms used in other studies, and of objects like articles of food or clothing with which children are familiar.

LANGUAGE. — Object, as in the first half. Oral and written exercises. Continue the reproduction and picture stories, and simple descriptions of objects, scenes, and actions. Have the pupils construct sentences, using words taken from the reading lesson, or suggested by the teacher. Continue to give attention to capitals and the most common marks of punctuation, and teach the simplest form of letter-writing.

ARITHMETIC. — Numbers, oral and written, to fifty, with drill as in the first half. Give much practice in oral examples, with abstract numbers involving several operations, for rapid work. Roman notation to fifty. Coins, and dollar sign. Pint, quart, gallon; pint, quart, peck, bushel; inch, foot, yard; hour, day, week, month, year; dozen. Fractions, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{3}$, $\frac{1}{6}$, 1-12, 1-16.

GEOGRAPHY. — Continue work of first half, and begin the work of recognizing and naming bodies of land and water which are within the range of the pupils' observation, as hill, valley, river, brook, etc. Field lessons can be taken if desired by the teacher. Pupils draw school-room. With growing plants in the school-room, teach effects of too great heat or cold, lack of moisture, etc.

NATURE STUDY. — As in the first half. Continue collections. Experiment with seeds planted in pots in the school-room. Have children gather cocoons, and watch for the change into moths and butterflies. Make regard for animal life an integral part of all lessons on animals. Observe, draw, describe.

PHYSIOLOGY. — The senses continued: The nose and smell; the tongue and taste; touch. Show the use and value of all the senses, and the ill effects of abuse, including under the latter topic the effects of alcohol and tobacco. Be careful not to lessen influence by over-statements.

THIRD YEAR.

FIRST HALF.

READING. — The first half of the Franklin Advanced Second Reader, and supplementary readers. The habit of reproducing that which has been read, usually orally, but sometimes in writing, which should have already been begun, becomes in this and succeeding grades a matter of the greatest importance, and every reading lesson should have in connection with it some work of this kind.

WRITING. — On slates, on ruled paper with pencil, and in the tracing book No. 1 with pen. Give special attention to correct pen-holding. In all written work in language, nature study, etc., insist on order, neatness, and the very best penmanship of which the pupil is capable.

SPELLING. — Words and sentences copied from the reading book, and afterwards written from dictation. New words in the reading lessons spelled orally, and afterwards written in sentences. Be sure that no pupil is called upon to spell a word the meaning of which is not known. Insist upon correct spelling in all written work. Give much drill on familiar words which are often misspelled, but do not consider it necessary to teach the spelling of all the difficult and uncommon words which are found in the reading book.

LANGUAGE. — Oral and written exercises. Review, continue, and extend all work of previous grades. Teach different forms of sentences, the use of *is, are; was, were; did, done; saw, seen, etc.*; the correct use in sentences of some synonyms, as *big, large; like, love, etc.*; and a few homonyms, as *fore, four; write, right; no, know, etc.*; the use of capitals with proper names, some abbreviations, and such punctuation as is needed in the written work done by the pupils. Consult Powell's "How to Write," Mrs. Knox-Heath's "Elementary Lessons in English," and Tarbell's "Lessons in Language," Book I.

ARITHMETIC. — Numbers, oral and written, Arabic and Roman notation, to one hundred. Drill as before on rapid, applied, and abstract work, and give considerable attention to adding numbers in columns, and to the multiplication table, the latter being, of

course, developed before it is memorized. Review and extend all previous work, especially that in fractions and denominate numbers.

GEOGRAPHY. — Begin map drawing to scale, at first with very simple objects, as a book, slate, or desk. Teach as many land and water surfaces as can be brought within the range of observation (names, not definitions), and, by the aid of pictures, begin to develop some knowledge of objects beyond vision. Field lessons and sand modeling, if convenient. Consult Nichols' "Topics in Geography," Grade II, Frye's "Brooks and Brook Basins," and "Child in Nature."

NATURE STUDY. — Observation lessons on familiar plants, animals, and minerals continued to include some knowledge of parts, habits, uses, qualities, etc., with comparisons noting resemblances and differences. Read in this year, Wood's "Second Natural History Reader" and "Seaside and Wayside, No. 2." Consult Ricks' "Natural History Lessons."

PHYSIOLOGY. — The bones, teeth, skin, and muscles. Teach few names, and only the most general features, giving special attention to the laws of health. Temperance teaching continued. Throughout this year some exercises may well be written, and the interest may be increased by drawing some of the parts described.

SECOND HALF.

READING. — Franklin Advanced Second Reader completed, and supplementary readers. Continue phonics and enunciation exercises, and teach syllables, accent, and the use of diacritical marks.

"The best way to teach children to read, after they are once started, is to put into their hands a good story book." — *Swett*.

WRITING. — Tracing book No. 2, with pen, and slates and ruled paper with pencil, as before.

SPELLING. — As in the first half.

LANGUAGE. — Results to be accomplished: At the end of this year pupils should be able to reproduce the thoughts of others, whether read silently by themselves or told them by the teacher, and to express their own thoughts on any subject clearly within

the limits of their own knowledge, with considerable facility and in correct and appropriate forms of speech. They should have some knowledge of the simplest form of letter-writing, and should know the usual marks of punctuation, the common abbreviations, and the proper use of capital letters.

The work to be done is best indicated by the above statement. Consult books previously referred to, especially "Tarbell's Lessons," of which Part I will be the work for pupils in the first half of the fourth year.

ARITHMETIC. — Numbers to one hundred and forty-four. Arabic and Roman notation to one thousand. Review and extend the work of all previous grades.

GEOGRAPHY. — Continue work of first half and review and extend work of all previous grades. Draw to scale, maps of school-room or yard. Teach by observation as far as possible, and then, by the use of pictures, not only the bodies of land and water, but the projections of the same, as capes, peninsulas, bays, straits, etc. Observe, draw, model, and describe.

NATURE STUDY. — Lessons as in the first half.

PHYSIOLOGY. — Circulation, respiration, and digestion. As before, avoid teaching too much, and make the instruction as practical as possible by relating each fact learned to some simple and easily followed law of health.

GRAMMAR SCHOOLS.

FOURTH YEAR.

READING — Third Reader. Especial attention should be given the Introductory Exercises and the lessons in spelling and defining at the beginning of each reading lesson.

SPELLING — Worcester's New Pronouncing Speller. First Half, to page 29; Second Half, from page 29 to 47.

ARITHMETIC — From dictation; numeration and notation, addition and multiplication; amounts not to exceed a million. Second Half from dictation; numeration and notation; addition and multiplication, subtraction and long division, not to exceed three periods. In subtraction, not more than two figures in the minuend to be less than the figures below them, and in division the divisor not to exceed 25.

LANGUAGE — Tarbell's Lessons in English. First Half, to page 64 ; Second Half, from page 64 to 104.

GEOGRAPHY — Butler's Elementary. First Half, to page 30 ; Second Half, from page 30 to 60.

HISTORY — Child's Book of History as a reader.

MENTAL ARITHMETIC — Thomson's Intellectual. Omit subtraction. First Half, to page 31 ; Second Half, including subtraction, from page 31 to 38.

FIFTH YEAR.

READING — Fourth Reader, with daily drill on Introductory Exercises spelling and defining.

SPELLING — Worcester's New Pronouncing Speller. First Half, from page 47 to 69 ; Second Half, from page 69 to 93.

ARITHMETIC — Bradbury's Eaton's Practical. First Half, to page 60 ; Second Half, from page 60 to 87.

LANGUAGE — Tarbell's Lessons in English. First Half, from page 104 to 156 ; Second Half, finish.

GEOGRAPHY — Butler's Elementary Geography. First Half, from page 60 to 92 ; Second Half, from page 92 to end.

HISTORY — Scudder's Short History as a reader.

MENTAL ARITHMETIC — Thomson's Intellectual. First Half, to page 42 ; Second Half, from page 42 to 65.

SIXTH YEAR.

READING — Franklin Intermediate, with drill on Introductory Exercises daily. Spelling and defining.

SPELLING — Worcester's New Pronouncing Speller. First Half, from page 93 to 111 ; Second Half, from page 111 to 125.

ARITHMETIC — Bradbury's Eaton's Practical. First Half, from page 89 to 102 ; Second Half, from page 102 to 134.

GRAMMAR — Patterson's Elements. First Half, to page 28 ; Second Half, from page 28 to 46.

GEOGRAPHY — Butler's Grammar School Geography. First Half, to page 26 ; Second Half, from page 26 to 44.

HISTORY — Scudder's Short History as a reading book.

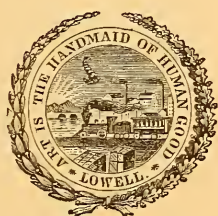
MENTAL ARITHMETIC — Thomson's Intellectual. First Half, from page 60 to 80 ; Second Half, omitting compound numbers, from page 80 to 108.

SEVENTH YEAR.

READING — Franklin Intermediate Reader, with drill on exercises to secure distinct articulation and correct pronunciation and expression.

AUDITOR'S
FIFTY-EIGHTH ANNUAL REPORT
OF THE
RECEIPTS AND EXPENDITURES
OF THE
CITY OF LOWELL, MASS.

TOGETHER WITH THE
TREASURER'S ACCOUNT AND THE ACCOUNT OF THE COMMISSIONERS OF
SINKING FUNDS FOR THE FINANCIAL YEAR
ENDING DECEMBER 31, 1893.



LOWELL, MASS.:
CITIZEN NEWSPAPER COMPANY, PRINTERS.
1894.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, January 16, 1894.

Received and ordered on file. Sent down for concurrence.

MICHAEL J. DOWD, City Clerk.

IN COMMON COUNCIL, January 23, 1894.

Received and ordered on file in concurrence.

FRANK J. SIMONDS, Clerk.

AUDITOR'S REPORT
OF THE
RECEIPTS AND EXPENDITURES
FOR THE YEAR ENDING DEC. 31, 1893,

AUDITOR'S REPORT.

CITY OF LOWELL,
AUDITOR'S OFFICE, Jan. 1, 1894.

TO THE CITY COUNCIL :

Gentlemen :—In conformity with the requirements of the ordinances of the City, I have the honor to present the Fifty-eighth Annual Report of the Receipts and Expenditures of the City of Lowell, for the year ending December 31, 1893, exhibiting the same as classified in the several Department Accounts with the valuation of the Real and Personal Property in charge of the several departments, and a statement of the City Debt and Debts due the City.

RECEIPTS.

The whole amount of money received into the Treasury from all sources, from January 1 to December 31, 1893, was.....

\$2,663,588 95

Of this amount there was received on
account of

Taxes of 1889.....	\$	17	47
Taxes of 1890.....		269	49
Taxes of 1891.....		33,550	40
Taxes of 1892.....		99,914	73
Taxes of 1893.....		971,072	78
Schools.....		26,231	69
School-houses.....		23,875	78
High School Building.....		16,805	92
Chelmsford Street School House.....		6	24
Oaklands School House.....		40	00
Addition to Butler School.....		25,000	00
Roads and Bridges.....		41,169	57
Removal of Railroad in Moody Street.....		17,000	00
Watering Streets.....		18,322	69
Paving.....		36,850	69
Pawtucket Boulevard.....		9,912	37
City Cemeteries.....		6,539	47
Reserved Fund.....		128,221	06
Paupers.....		30,563	89
Police.....		29,550	30
Fire Department.....		30,650	58
Sewers and Drains.....		98,500	99
Centralville Main Sewer.....		40,000	00
Commons.....		1,355	00
Lighting.....		8,423	22
Public Buildings.....		3,385	60
City Hall and Memorial Building....		1	00
Library.....		3,770	66
Health.....		12,063	15
Water Works.....		204,238	96
Driven Well Plant.....		8,233	40
State Aid.....		15,203	00
Aid for Indigent Soldiers and Sailors,		3,135	00
Interest.....		17,982	50
City Debt.....		116,000	00
National Bank Tax.....		4,864	54
Temporary Loans.....		502,000	00
Fund for Ordinary City Debt.....		63,276	81
Water Loan Sinking Fund.....		590	00
Water Loan Old Debt Sinking Fund.....		15,000	00

\$2,663,588 95

AUDITOR'S REPORT.

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EXPENDITURES.

The whole amount expended and ordered to be paid from the Treasury from Jan 1 to Dec. 31, 1893 was.....

\$2,930,451 38

The expenditures are charged to the following appropriations or accounts:

Schools	\$226,015 00
School-houses	55,821 69
High School Building.....	72,946 48
Chelmsford Street School House.....	33,596 32
Oaklands School House.....	10,139 08
Addition to Butler School.....	9,577 73
Roads and Bridges.....	132,647 80
Removal of Railroad in Moody Street.....	17,000 00
Watering Streets.....	17,380 99
Paving.....	35,367 27
Pawtucket Boulevard.....	10,637 07
City Cemeteries.....	9,336 23
Reserved Fund.....	91,499 45
Paupers	86,965 82
New Buildings at City Farm.....	13,212 00
Police.....	104,682 95
Fire Department.....	141,818 95
Sewers and Drains.....	106,070 39
Centralville Main Sewer.....	23,602 79
Commons.....	15,806 14
Printing and Advertising.....	7,664 99
Lighting	69,035 46
Public Buildings.....	20,334 35
City Hall and Memorial Building....	138,415 04
Library	18,221 84
Health	49,426 54
Water Works.....	211,901 86
Driven Well Plant.....	62,099 92
Salaries	30,515 00
State Aid.....	13,791 00

Amount carried forward\$1,835,530 15

<i>Amount brought forward</i>	\$1,835,530 15	
Aid for Indigent Soldiers and Sailors,	5,153 00	
Interest	96,536 45	
City Debt.....	282,800 00	
National Bank Tax.....	22,158 68	
State Tax.....	75,639 29	
County Tax.....	57,751 55	
Abatement of Taxes.....	536 64	
Temporary Loans.....	448,900 00	
Fund for Ordinary City Debt.....	56,555 62	
City Hall and Memorial Building		
Sinking Fund.....	7,500 00	
High School Sinking Fund.....	3,000 00	
Intercepting Sewer Fund.....	5,000 00	
Water Loan Sinking Fund.....	16,590 00	
Sinking Fund for High Service Water		
Supply	1,800 00	
Water Loan Old Debt Sinking Fund.	15,000 00	
		<u>\$2,930,451 38</u>
The whole amount of expenditures		
during the year 1893, was.....	\$2,930,451 38	
The whole amount of receipts during		
the year 1893, was.....	2,663,588 95	
Excess of expenditures over receipts.		<u>\$266,862 43</u>
The balance in the Treasury, January		
1, 1893, was.....	\$312,438 42	
The amount received into the Treas-		
ury during the year 1893, was...	2,663,588 95	
Making a total of.....	\$2,976,027 37	
The amount ordered to be paid from		
the Treasury during the year		
1893, was.....	2,930,451 38	
The balance in the Treasury, Dec. 31,		
1893, was.....		<u>\$45,575 99</u>

CITY DEBT.

The amount of the City Debt, Jan. 1,		
1893	\$3,248,300 00	
Amount borrowed during the year		
1893	474,900 00	
		<u>\$3,723,200 00</u>
<i>Amount carried forward</i>		\$3,723,200 00

AUDITOR'S REPORT.

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<i>Amount brought forward</i>		\$3,723,200 00
Amount paid during the year 1893..		282,200 00
Amount of the City Debt, Dec. 31, 1893		<u>\$3,440,400 00</u>
Increase in the City Debt during the year 1893.....		<u>\$ 192,100 00</u>
The debt of the city on account of Water Works, Jan. 1, 1893, was.	\$1,279,000 00	
Amount borrowed during the year...	100,000 00	
		\$1,379,000 00
Amount paid during the year 1893...	116,000 00	
The amount of the Sinking Funds for reduction of the same, Dec. 31, 1893	167,497 70	
		\$ 283,497 70
Net City Debt on account of Water Works, Dec. 31, 893.....		<u>\$1,095,502 30</u>
The amount of the ordinary City Debt, Jan 1, 1893.....	\$1,969,300 00	
Amount borrowed.....	374,900 00	\$2,344,200 00
Amount paid during the year 1893...	166,800 00	
The amount of the Sinking Funds for the reduction of the same Dec. 31, 1893.....	345,066 11	
		\$511,866 11
Net Ordinary City Debt, Dec. 31, 1893		\$1,832,333 89
Net City Debt on account of Water Works, Dec. 31, 1893.....		<u>1,095,502 30</u>
Total Net Debt of the City, Dec. 31, 1893		\$2,927,836 19
Total Net Debt of the City, Jan. 1, 1893		<u>\$2,864,516 17</u>
Increase in the Net Debt of the City, during the year 1893.....		<u>\$63,320 02</u>

Respectfully submitted,

DAVID CHASE,

Auditor of Accounts.

Appropriations and Expenditures.

THE AMOUNT OF THE SEVERAL APPROPRIATIONS MADE BY THE CITY COUNCIL DURING THE YEAR — THE AMOUNT OF THE UNEXPENDED BALANCE OF 1892 — THE TRANSFERS FROM ONE APPROPRIATION TO ANOTHER — THE AMOUNT RECEIVED INTO THE TREASURY FROM ALL SOURCES — THE EXPENDITURES IN DETAIL UNDER EACH APPROPRIATION AND THE UNDRAWN BALANCES, DECEMBER 31, 1893 — ALSO, THE AMOUNT OF THE CITY DEBT — DEBTS DUE THE CITY — SCHEDULES OF REAL AND PERSONAL PROPERTY, ETC.

SCHOOLS.

Balance undrawn Jan. 1, 1893.....	\$ 270 58	
Appropriation for 1893.....	200,000 00	
		\$200,270 58

RECEIPTS.

Received into the Treasury on account
of SCHOOLS:

From A. K. Whitcomb, for tuition of sundry persons.....	\$ 949 00	
Appropriation for Water Works, for discounts and refund on water bills....	200 19	
Nettie A. Carleton, for over- draft	72 00	
F. Blanche Hard for overdraft,	10 50	
Lee, Higginson & Co., loan....	25,000 00	
		\$26,231 69
		<u>\$226,502 27</u>

EXPENDITURES.

Paid SUPERINTENDENT OF
PUBLIC SCHOOLS:

To A. K. Whitcomb, salary.....	\$2,800 00	
		\$2,800 00
Paid SUPERVISOR:		
To John A. Smith, salary.....	\$1,425 00	
		\$1,425 00
<i>Amount carried forward.....</i>		<u>\$4,225 00</u>

<i>Amount brought forward.....</i>	\$4,225 00
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Paid TRUANT OFFICERS:

To Bickford Lang, salary.....	\$900 00	
John F. Williams, salary.....	950 01	
James Kelly, salary.....	900 00	
		\$2,750 01

Paid for SERVICES OF
TEACHERS:

In High School.....	\$17,331 00	
Grammar Schools.....	64,743 63	
Primary Schools.....	61,118 33	
Training School.....	5,108 01	
Kindergarten Schools.....	2,316 00	
Sewing.	791 25	
Music	1,250 00	
Penmanship	1,250 00	
Drawing.....	1,250 00	
Military	250 00	
Manual Training.....	55 00	
		\$155,463 22

Paid for BOOKS:

To Allyn & Bacon.....	\$ 42 60	
American Book Co.....	1,213 75	
D. Appleton & Co.....	6 00	
Boston School Supply Co.....	2,663 79	
E. A. Burgess.....	8 00	
Educational Publishing Co.....	6 63	
Effingham, Maynard & Co.....	40 50	
Ginn & Co.....	940 00	
D. C. Heath & Co.....	144 84	
Henry Holt & Co.....	21 00	
Leach, Shewell & Sanborn.....	26 40	
Lee & Sheppard.....	24 18	
F. B. Lippincott & Co.....	45 00	
A. H. Lombard.....	10 00	
Maynard, Merrill & Co.....	27 00	
Potter & Putnam.....	40 55	
John E. Potter & Co.....	30 00	
Sheldon & Co.....	341 66	
Carl Schernhof.....	33 60	
Silver, Burdett & Co.....	25 50	
Thompson, Brown & Co.....	673 52	
<i>Amounts carried forward.....</i>	\$6,364 52	\$162,438 23

SCHOOLS.

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<i>Amounts brought forward.....</i>	\$6,364 52	\$162,438 23
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Paid for BOOKS :

To University Publishing Co.....	10 00	
William Ware & Co.....	1,255 95	
		\$7,630 47

Paid for BLANK BOOKS, STATIONERY, ETC. :

To Bacheller, Dumas & Co., for paper, binding, lettering, etc.	\$ 302 75	
Boston School Supply Co., for paper, pens, holders, etc....	451 42	
Boston Bank Note and Litho- graphing Co., for diplomas..	100 00	
Milton, Bradley Co., for paper..	65 05	
Campbell & Hanscom, for postals and printing.....	65 75	
Citizen Newspaper Co., for print- ing	71 77	
Daily News Job Print, for print- ing	20 00	
Daily News Co., for printing, etc.	5 00	
Eagle Pencil Co., for pencils....	24 50	
Eberhard Faber, for pencils and slates	222 25	
F. J. Fleming, for paper.....	7 00	
J. L. Hammett, for paper, envel- opes, rings, etc.....	237 91	
Holden Patent Book Cover Co., for covers.....	269 54	
George F. King & Merrill, for pens, paper, erasers, etc....	214 23	
Thomas H. Lawler, for blank books, pens, etc.....	375 25	
Lawton & Co., for paper, ribbon, etc.....	6 85	
Lyon Platinum Pen Co., for pens,	55 00	
Lowell Courier Publishing Co., for printing and advertising.	14 93	
Lowell Sun, for printing.....	74 50	
Lowell Daily Sun, for advertis- ing	23 25	
Morning Mail Corporation, for advertising, etc.....	6 25	
<i>Amounts carried forward.....</i>	\$2,613 20	\$170,068 70

Amounts brought forward..... \$2,613 20 \$170,068 70

Paid for BLANK BOOKS, STATIONERY, ETC.:

To Nashua Iron & Brass Foundry Co., for ink wells.....	14 40	
Parker & Bassett, for paper.....	11 88	
George S. Perry & Co, for paper, ink, pens, slates, etc.....	820 88	
Prang Educational Co., for drawing books, etc.....	778 18	
George C. Prince & Son, for frames	37 50	
Smith Premier Typewriter Co., for note books and paper...	7 80	
A. Storrs & Bement Co, for paper	35 91	
Vox Populi Press, for printing..	3 50	
M. R. Warren, for paper.....	25 65	
		\$4,348 90

Paid for FUEL:

To Appropriation for Roads and Bridges, for teaming coal..	\$ 31 18	
Appropriation for Paupers for wood	704 00	
Edward Cawley, for coal.....	1,490 09	
William E Livingston, for coal..	10,886 97	
		\$13,112 24

Paid for SUNDRIES:

To Appropriation for School-houses, for labor and material.....	1,422 93	
Appropriation for Police, for services of officers.....	4 13	
Appropriation for Water Works, for water.....	1,790 51	
Appropriation for Water Works, for meter connections, etc...	46 55	
Lowell Electric Light Corporation, for power	225 01	
Lowell Gas Light Co., for gas...	163 46	
<i>Amounts carried forward</i>	\$3,652 59	\$187,529 84

<i>Amounts brought forward.....</i>	\$3,652 59	\$187,529 84
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Paid for SUNDRIES :

To N. E. Tel. and Tel. Co., for service.....	136 35
Otis Allen & Son, for lumber....	3 32
Howe Lumber Co., for lumber..	2 98
Amasa Pratt & Co, for lumber..	7 67
Bartlett & Dow, for hardware, etc.,	61 84
Boutwell Bros., for iron.....	33
Thompson Hardware Co., ash cans, thermometers, crayons, etc.....	339 20
H. R. Barker, Manufacturing Co., for repairing pencil sharpeners, etc.....	19 70
T. Costello & Co., for grates, linings, labor, etc.....	21 10
Derby and Morse, for zines, labor on electrical apparatus, etc..	37 59
Durant & Rogers, for repairing sword.....	1 50
Farrell & Conaton, for pipe, fittings, etc.....	61 27
Golding & Co., for binder, plunger, etc	1 09
W. A. Mack & Co., for basin, ink fillers, etc.....	22 71
James F. McElholm, for sal-amoniack, zines, etc.....	16 99
N. J. Wier & Co., for repairing stoves....	63 69
H. H. Wilder & Co., for repairing stoves.....	34 98
C. Zimmer, for tag rings.....	75
Adams & Co., for chairs.....	12 50
Benner & Corey, for enamel cloth,	83
J. A. & W. Bird & Co., for brushes.....	6 00
Patrick Brady, for reseating chairs	12 75
F. A. Buttrick, for chairs.....	4 25
J. W. Cassidy, for enamel cloth, needles, thread, worsted, etc.....	80 95

<i>Amounts carried forwvrd.....</i>	\$4,602 93	\$187,529 84
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<i>Amounts brought forward.....</i>	\$4,602 93	\$187,529 84
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Paid for SUNDRIES :

To Chandler & Barber, for benches, drawing kits, etc., for manual training school..	322 05
J. J. Cluin, for carney medals, clock and repairing.....	123 75
Mrs. D. Crowley, for Ribbon....	9 26
Derby, Kilmer & Pond Desk Co., for desks.....	55 00
Charles F. Dow, for keg.....	2 55
M. F. Gookin, for matting.....	9 75
W. G. Hallock, for brushes.....	129 75
J. L. Hammett, for thread, mats, cord, etc.....	173 02
Charles T. Haskell, for repairing clocks.....	15 00
C. F. Hatch & Co., for boxes....	3 00
Rose A. Jordan, for ribbon.....	14 00
Lamson & Moulton, for cotton, needles, etc.....	3 85
Manning & Leighton, for chairs..	14 50
H. C McOsker, for shades, rollers, labor, etc.....	98 80
Merrimack Croquet Co., for dumb- bells, beads, etc.....	460 54
O'Donnell & Gilbride, for furni- ture, flannel, thread, etc....	1,026 89
J. F. Puffer & Son, for brooms, jars, etc.....	11 55
Harry Raynes, for medal, plating, etc.....	29 00
William Read & Son, for sword belt, etc.....	8 00
Charles F. Shourds & Co., for dusters.....	27 50
Simpson & Rowland, for bags, soap, etc.....	24 15
P. J. Smith, for waste.....	2 00
United States Bunting Co., for bunting....	20 00
Wyckoff, Seamans & Benedict, for typewriter.....	70 00

<i>Amounts carried forward.....</i>	<u>\$7,256 84</u>	<u>\$187,529 8</u>
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<i>Amounts brought forward.....</i>	\$7,256 84	\$187,529 84
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Paid for SUNDRIES :

To Carleton & Hovey, for chemicals, etc	55 63
C. B. Coburn & Co., for oil, wicks mats, benzine, lanterns, etc..	288 38
F. J. Fleming, for paper.....	6 00
Franklin Educational Co , for cop- per, zinc, tacks, dishes.....	55 00
J. F. Fuller & Co., for disinfectant,	50 00
Goodyear Gossamer Co , for stop- ples, mats, etc.....	48 47
Imperial Chemical Co., for dis- infectant.....	12 50
Cyrus W. Irish, for balances, weights, etc.....	35 00
James F. Kelty, for matches....	20
A. L. Kittredge, for paint.....	1 64
Lasker Bros, for sponge.....	27 16
Queen & Co., for microscope, barometer, etc.....	299 44
Talbot Dyewood & Chemical Co., for indigo, filter papers, etc.,	30 24
G. F. White, for mucilage cups..	1 00
Chelmsford Street Free Baptist Society, for rent of vestry..	250 00
Estate F. A. Hildreth, for rent of land	50 00
Estate Patrick F. Mellen, for rent of building	237 50
Estate J. M. G. Parker, for rent of store	50 00
Middlesex Mechanics Association, rent of hall.....	410 00
Francis Sawyer, for rent of land,	30 00
Bachelor, Dumas & Co., for paper,	1 75
Buckland Printing Co., for print- ing,.....	34 00
Campbell & Hanscom, for printing	27 00
Citizen Newspaper Co., for print- ing,.....	90 95
Daily News Job Print, for printing	12 00
Daily News Co., for advertising,	4 38

<i>Amounts carried forward.....</i>	\$9,365 08	\$187,529 84
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Amounts brought forward..... \$9,365 08 \$187,529 84

Paid for SUNDRIES :

To Lowell Courier Publishing Co.,	
for printing and advertising,	38 23
Lowell Daily Sun, for advertising,	1 50
Lowell Sun, for printing.....	26 75
Morning Mail Corp., for printing	
and advertising.....	6 25
Vox Populi Press, for printing..	3 50
John J. Jones, for stamps.....	22 45
H. W. Ordway, for stamp.....	35
F. F. Coburn, for expenses of	
High School Battalion at	
Malden.....	133 50
Lawrence J. Cummings, for ex-	
penses to Boston.....	1 65
John A. Smith, for office expenses,	
etc.....	99 40
A. K. Whitcomb, for travelling	
expenses, etc.....	93 45
Mrs. W. E. Adams, for services	
as matron....	66 50
Lilla Ward, for services as matron,	37 50
John F. Williams, for repairing	
flags....	4 00
G. E. Richardson, for services as	
quartermaster, High School	
Battalion.....	50 00
T. M. Graves, for engrossing reso-	
lutions	8 00
A. Hurtibise, for services as inter-	
preter.....	25 00
Maud Paradis, for services at	
drill.....	11 00
Mary C. Walker, for kindergarten	
material.....	6 04
John F. Merrill, for services as	
janitor	26 00
C. E. Austin, for use of piano...	41 00
Henry Dufresne, for repairing	
drums.....	35 45
George Gardner, for piano.....	275 00
J. A. Green, for pianos, covers,	
etc.....	1,315 00

Amounts carried forward..... \$11,692 60 \$187,529 84

<i>Amounts brought forward.....</i>	\$11,692 60	\$187,529 84
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Paid for SUNDRIES :

To American Orchestra for services.....	115 00
R. A. Griffiths, for flowers.....	6 00
Patten & Co., for decorations....	66 50
D. L. Page Co, for lemonade, etc.	1 45
Irvin A. Foote, for tuning and repairing pianos.....	45 00
F. P. Coggeshall, for services as census enumerator.....	78 80
Edward F. Gormley, for services as census enumerator.....	103 30
Thos. J. Harrigan, for for services as census enumerator.....	158 15
John A. Herrick, for services as census enumerator.....	155 00
J. S. Lapierre, for services as census enumerator.....	120 00
J. H. Martin, for services as cen- sus enumerator.....	81 85
T. M. Bolton, for bit and repair- ing harness.....	9 30
Cahill Bros., for shoeing horse...	22 95
Owen Cahill, for shoeing horse..	2 00
F. J. Doherty, for painting car- riage	27 85
Sawyer Carriage Co., for repair- ing carriage.....	20 01
Joseph F. Convery, for labor....	5 00
Thomas F. Fay, for cleaning vaults	69 00
Fred A. Fox, for cleaning vaults.	51 00
Thomas H. Keefe, for board of horse.....	103 87
J. H. Sparks, for professional ser- vices and board of horse....	182 86
R. W. Hunt, for carriage hire...	23 00
Keyes & Co., for carriage hire...	11 00
American Express Co., for trans- portation	54 15
Lovejoy-Paul Express Co, for transportation	18 90
New York & Boston Despatch Express Co, for transporta- tion.....	4 15

<i>Amounts carried forward.....</i>	\$13,218 69	\$187,529 84
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Amounts brought forward..... \$13,218 69 \$187,529 84

Paid for SUNDRIES :

To Mutual Express Co, for transportation.....	13 90	
People's Despatch Co., for transportation.....	1 75	
Boston & Maine Railroad, for transportation.....	99	
Boston & Maine Railroad, Southern Division, for transportation.....	25	
W. C. Burnett, for teaming....	1 00	
Daniel J. Kelly, for teaming..	3 00	
D. P. Knowlton, for teaming....	3 00	
T. G. Little, for teaming.....	3 00	
Daniel Lyons, for teaming.....	12 50	
Daniel McCarthy, for teaming...	14 00	
J. W. McDonald, for teaming...	9 50	
G. H. McNabb, for teaming.....	50	
Wm. Roberts, for teaming.....	13 00	
J. S. Scanlon, for teaming.....	9 50	
George E. Stanley, for teaming..	53 34	
George Whitely, for teaming....	4 25	
John Whitely, for teaming.....	28 50	
		13,390 67

EVENING SCHOOLS.

Paid for SUNDRIES:

To Services of Teachers.....	\$16,006 50	
Services of Janitors.....	1,819 00	
Appropriation for School-houses, for labor and material.....	68 33	
Lowell Electric Light Corporation, for lighting.....	37 90	
Lowell Gas Light Co., for gas...	1,545 12	
Drury & Green, for pipe, fittings and labor.....	145 55	
Farrell & Conaton, for pipe, fittings and labor.....	25 05	
Carleton & Horey, for soap.....	1 00	
Campbell & Hanscom, for printing and advertising.....	51 00	
<i>Amounts carried forward</i>	\$19,699 45	\$200,920 51

EVENING SCHOOLS.

23

Amounts brought forward..... \$19,699 45 \$200,920 51

Paid for SUNDRIES :

To F. Blanche Hard, for typewriter, book, carbon, paper.....	80 05	
Smith Premier Typewriter Co., for typewriters and stands..	140 00	
Lowell Opera House Bill Posting Co., for posting.....	4 50	
A. V. Partridge, for posting.....	2 00	
American Orchestra, for services,	27 00	
Keyes & Co., for carriage hire...	16 00	
		\$19,969 00

DRAWING SCHOOLS.

Paid for SUNDRIES :

To Services of Teachers.....	\$4,249 50	
Services of Janitors.....	105 00	
Appropriation for School-houses, for labor and material.....	81 91	
Lowell Electric Light Corpora- tion, for lighting.....	288 20	
Lowell Gas Light Co, for gas...	132 82	
Ellen D. Carney, for oil, scoops, etc.....	2 21	
Henry M. Southworth, for books and blue prints.....	30 50	
Helen W. Wright, for subscrip- tion to Art Amateur.....	3 50	
Mrs. Michael Campion, for labor.	15 00	
John H. Toy, for labor.....	15 00	
Derby & Morse, for wiring for in- candescent lights.....	104 41	
Drury & Green, for repairing gas cock	3 35	
Lowell Machine Shop, for machin- ery	19 96	
P. P. Caproni & Bro., for plaster,	24 00	
C. B. Coburn & Co., for soap, brush, etc.....	10 23	
W. H. Spalding & Co, for paper.	2 90	
Butterfield Printing & Binding Co., for printing.....	6 00	
<i>Amounts carried forward</i>	\$5,094 49	\$220,889 51

<i>Amounts brought forward.....</i>	\$5,094 49	\$220,889 51
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Paid for SUNDRIES :

Campbell & Hanscom, for printing and advertising.....	23 00	
Samuel M. Chase, for printing...	5 00	
A. V. Partridge, for posting.....	3 00	
		5,125 49
Total expenditure for the year 1893..		\$226,015 00
Balance undrawn Dec. 31, 1893.....		487 27
		<u>\$226,502 27</u>

SCHOOL-HOUSES.

Balance undrawn Jan. 1, 1893.....	\$10,634 18	
Appropriation.....	25,000 00	
		\$35,634.18

RECEIPTS.

From Appropriation for Schools, for labor and material.....	\$1,573 17	
Appropriation for High School Building, for labor and material.....	3,752 17	
Appropriation for Oaklands School House, for labor and material.....	416 83	
Appropriation for Chelmsford Street School House, for labor and material.....	116 44	
Reserved Fund, for labor and material.....	20 35	
C. I. Hood, for land and building (Old Moody School)..	9,990 75	
Joseph Jalbert, for repairing pipe.....	1 55	
Rice & Co., for overdraft.....	4 52	
Lee, Higginson & Co., on loan,	8,000 00	
		23,875 78
		\$59,509 96

EXPENDITURES.

Paid for LUMBER, HARDWARE,
ETC. :

To A. L. Brooks & Co, for lumber..	\$	54	
J. W. Bennett & Co., for lumber,		91	00
Burnham & Davis, for lumber...	1,151	24	
Howe Lumber Co., for lumber...	1,024	67	
Amasa Pratt & Co., for lumber..	294	12	
American Bolt Co., for nuts.....		53	
Bartlett & Dow, for hardware...	327	45	
J. C. Bennett, for hardware.....		42	
F. W. Cheney & Co., for hardware	31	21	
Thompson Hardware Co., for hardware	93	53	
			\$3,014 71

Paid for CONSTRUCTION OF
MOODY SCHOOL-HOUSE :

To Sundry persons, for labor.....	\$2,209	28	
Appropriation for Roads and Bridges, for labor.....	192	86	
Appropriation for Water Works, for pipe fittings and labor...	95	91	
Stickney & Austin, on account of plans, specifications, etc.....	249	49	
Richard Bray, for expenses of committee	6	10	
Daniel Cushing & Co, on account of contract for metal work..	179	00	
Farrell & Conaton, on account of contract for heating and ventilating.....	1,762	66	
Farrell & Conaton, on account of contract for plumbing.....	542	00	
Ladd & Conant, on account of contract for carpenter work.	4,013	00	
Ladd & Conant, for carpenter work.....	71	92	
Walsh and Meers, for plastering,	15	00	
J. L. Hammett, for furniture and blackboards.....	308	01	
<i>Amounts carried forward.....</i>	<i>\$9,645</i>	<i>23</i>	<i>\$3,014 71</i>

Amounts brought forward..... \$9,645 23 \$3,014 71

Paid for CONSTRUCTION OF
MOODY SCHOOL-HOUSE:

To Alvin, Lawrence, for clocks.....	91 00	
Manning & Leighton, for furniture.....	91 00	
H. C. McOsker, for shades, fixtures, etc.....	294 39	
George S. Perry & Co., for settees.....	262 50	
Burnham & Davis, for lumber...	28 58	
Howe Lumber Co., for lumber...	204 96	
O. E. Averill, for blacksmithing..	60	
Bartlett & Dow, for hardware and paint.....	141 88	
Rice & Co., for wire cloth.....	13	
Thompson Hardware Co., for hardware.....	10 00	
Derby & Morse, for electrical apparatus, etc.....	270 75	
C. B. Coburn & Co., for cord, hose, etc.....	86 75	
A. L. Kittredge, for paper and moulding.....	55 48	
W. H. Spalding & Co., for shellac, brushes, bronze, etc.....	41 62	
B. G. Brown, for grading.....	10 00	
Edward Cawley, for coal and loam,	279 35	
C. H. Hanson & Co., for teaming,	4 50	
L. F. Kittredge & Son, for filling and labor.....	72 12	
William E. Livingston, for sand and cement	6 45	
D. F. Lyons, for teaming.....	2 00	
Daniel McCarthy, for teaming..	10 00	
John Richards, for teaming....	1 00	
O. A. Simpson, for teaming....	52 00	
Boston & Maine Railroad, for transportation	10 80	
Lovejoy-Paul Express Co., for transportation.....	25	
		\$11,673 34*
<i>Amount carried forward</i>		
		\$14,688 05

* To this amount add \$70,060.97 expended previous to Jan. 1, 1893, making total cost of land and building \$81,734.31.

Amount brought forward.....

\$14,688 05

Paid for SUNDRIES :

To Sundry persons, for labor.....	\$11,522 29
Sundry persons for services as janitors	19,098 37
Appropriation for Roads and Bridges, for labor.....	23 50
Appropriation for Roads and Bridges, for sidewalk assess- ments on Powell Street and Mammoth Road.....	101 67
Appropriation for Watering Streets, for assessments.....	93 99
Appropriation for Sewers and Drains, for assessments for sewers on High and Maple Streets	127 51
Appropriation for Water Works, for pipe, fittings and labor..	193 36
Lowell Gas Light Co., for meter connections	1 25
A. H. Abbott, for blacksmithing,	2 25
J. T. Adams, for repairing fan..	1 00
O. E. Averill, for blacksmithing..	16 00
H. R. Barker Manufacturing Co., for heating apparatus, pipe, fittings, etc.....	1,620 61
T. Costello & Co., for grates, lin- ings, solder, labor, etc.....	118 34
Derby & Morse, for power motor, labor, etc.....	249 78
Drury & Green, for pipe, fittings, labor, etc.....	967 03
Farrell & Conaton, for plumbing, pipe, fittings, etc.....	886 43
J. E. Griffin, for pumps.....	34 00
S. H. Jones, for pipe, fittings and labor.....	53 85
A. I. Loughton, for shovels.....	1 00
W A. Mack & Co., for mica and labor.....	2 35
J. F. McElholm, for speaking tube, electric bells, etc.....	15 92

Amounts carried forward.....

\$35,130 50

\$14,688 05

Amounts brought forward..... \$35,130 50 \$14,688 05

Paid for SUNDRIES :

To William McLarney & Co., for pipe, fittings and labor.....	13 60
A. Parsons, for blacksmithing....	3 00
Rice & Co., for wire cloth.....	18 83
Scannell & Wholey, for boiler, grates, pokers, etc.....	570 95
Scott & O'Day, for labor and material.....	22 58
J. W. Stewart, for pipe, fittings and labor.....	17 80
H. H. Wilder & Co., for pipe, solder, screens, etc.....	44 94
D. H. Wilson & Co., for fittings and labor.....	26 50
A. Eaton & Son, for chair.....	1 00
J. L. Hammett, for desk.....	3 75
A. L. Kittredge, for lead, oil, shades, pulleys, etc.....	136 74
H. C. McOsker, for shades and fixtures.....	13 20
Henry F. Whiting, for belting..	45
C. B. Coburn & Co, for paint, oil, glass, ammonia, etc.....	126 42
P. Dempsey & Co., for alcohol..	104 65
C. M. Erskine, for oil.....	10
J. F. Slater, for oil.....	5 00
W. H. Spalding & Co., for paint, shellac, putty, etc.....	356 13
C. E. Townsend, for salt.....	20
J. W. Bennett & Co., for tarred paper	28 81
James Burns, for slate, zinc and labor.....	391 02
S. D. Butterworth, for mason work and material.....	211 95
Edward Cawley, for cement.....	6 60
Conners Bros., for brick and cement	44 60
Coburn & Crosby, for mason work	102 04
Thomas F. Gilligan, for slate, zincs and labor.....	182 50

Amounts carried forward..... \$37,563 86 \$14,688 05

<i>Amounts brought forward.....</i>	\$37,563 86	\$14,688 05
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Paid for SUNDRIES :

To Phillip Ginty, for slate, zinc and labor.....	75 76
Green & Fagin, for mason work and material	430 95
Robert Goulding, for slate, zinc and labor.....	6 27
William E. Livingston, for sand and cement.....	34 30
Clarence H. Nelson, for labor...	30 00
D. M. Prescott, for mason work and material.....	306 86
E. A. & A. T. Smith, for concrete	977 16
Samuel E. Snow, for plastering..	122 38
Staples Bros., for pipes, stopples, etc	1 45
Waldo Bros., for metal lathing..	62 18
Walker & Vaughn, for mason work and material.....	276 90
Walsh & Meers, for plastering..	380 12
Campbell & Hanscom, for printing and advertising.....	6 25
Citizen Newspaper Co., for advertising	5 25
Daily News Co., for advertising.	9 01
Lowell Daily Sun, for advertising,	6 75
Lowell Courier Publishing Co., for printing and advertising,	13 50
Benjamin Lenthier, for advertising	4 51
Morning Mail Corp., for advertising	5 66
F. E. Rollins, for typewriting...	2 02
Vox Populi Press, for printing and advertising.....	3 50
C. F. Kidder, for expenses of committee	50 88
Richard Bray, for expenses of committee	33 90
Richardson's Hotel, for suppers..	24 35
A. Y. Caswell, for railroad tickets	6 18
T. H. Elliott, for rent of land on London Street.....	50 00

<i>Amounts carried forward.....</i>	<u>\$44,489 95</u>	<u>\$14,688 05</u>
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<i>Amounts brought forward.....</i>	\$44,489,95	\$14,688 05
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Paid for SUNDRIES :

To George A. Murphy & Co., for advertising and selling Moody School House.....	313 85	
Proprietors of Locks and Canals, for rent of land on Cheever and Tucker Streets, and sidewalk assessment on Cheever Street.....	54 88	
P. H. Heelon, for keeping horse.	198 00	
American Express Co., for transportation	75	
Boston & Maine Railroad, for transportation	1 24	
Boston & Maine Railroad, Southern Division, for transportation.....	79	
Leroy C. Hall, for transportation,	1 68	
Lovejoy-Paul Express Co., for transportation	50	
Stickney Transfer Co., for teaming	4 00	
D. J. Kelly, for teaming.....	13 00	
Daniel Lyons, for teaming.....	22 50	
Daniel McCarthy, for teaming...	20 50	
William Roberts, for teaming...	12 00	
		41,133 64
Total expenditure for the year 1893..		\$55,821 69
Transferred to appropriation for Oakland School house.....		2,000 00
		\$57,821 69
Balance undrawn Dec. 31, 1893.....		1,688 27
		\$59,509 96

HIGH SCHOOL BUILDING.

Balance undrawn Jan. 1, 1893.....	\$58,676 82	
		\$58,676 82

RECEIPTS.

From Appropriation for Water Works discount on bills.....	5 92	
C. F. Foss & Co., for old brick and difference in buff brick,	3,800 00	
Lee, Higginson & Co., on loan,	13,000 00	
		\$16,805 92
		\$75,482 74

EXPENDITURES.

Paid for SUNDRIES :

To Appropriation for School-houses, for labor and material.....	\$ 3,752 17	
Appropriation for Roads and Bridges, for labor, material and services of engineers....	73 99	
Appropriation for Water Works, for water.....	59 26	
Appropriation for Water Works, for pipe and meters.....	99 22	
Stickney & Austin, for plans, specifications, etc.....	2,299 58	
C. F. Foss & Co., on account of contract for brick work....	13,702 93	
C. F. Foss & Co., for brick work, Farrell & Conaton, on account of contract for warming, ventilating and sanitary cremator,	304 50	
	5,883 34	
<i>Amount carried forward.....</i>	<i>\$26,174 99</i>	

Amount brought forward..... \$26,174 99

Paid for SUNDRIES :

To Farrell & Conaton, for plumbing,	1,361 00
Robert Goulding, for snow guards and slating.....	2,090 40
Joel Knapp & Son, on account of contract for iron work.....	3,088 00
Joel Knapp & Son, for anchor irons and steel beams.....	20 72
W. A. Mack & Co, for metal work (contract).....	2,064 00
W. A. Mack & Co., for metal work.....	194 52
C. H. Nelson, for carpenter work (contract)	15,166 00
C H. Nelson, for carpenter work,	1,312 71
Walsh & Meers, for plastering (contract)	4,000 00
Walsh & Meers, for plastering...	30 86
Walsh & Meers, for lathing.....	1,025 89
A. J. Alley, for patterns.....	3 50
J. W. Bennett & Co, for tarred paper	8 61
Burnham & Davis, for lumber...	64 75
Howe Lumber Co., for lumber..	129 35
Mark Holmes, jr., & Son, for lum- ber, table legs, etc.....	38 80
Amasa Pratt & Co., for lumber..	370 79
C. F. & J. B. Varnum, for lumber and labor.....	105 44
Bartlett & Dow, for hardware..	396 98
Thompson Hardware Co., for hardware	650 30
H. R. Barker Manufacturing Co., for gas and electric fixtures, etc	1,953 77
T. Costello & Co., for pipe, fit- tings, labor, etc.....	254 69
Derby & Morse, for electrical wir- ing, etc., (contract).....	923 60
Derby & Morse, for bells, tubes, electric clocks, etc.....	280 50
Farrell & Conaton, for lavatories, fittings, etc.....	2,092 20

Amount carried forward..... \$63,802 37

Amount brought forward..... \$63,802 37

Paid for SUNDRIES :

To Lowell Gas Light Co., for meter connections	1 00
Charles Runels, for stone and labor.....	301 29
Edward Cawley, for coal.....	90 03
C. B. Coburn & Co., for glass....	17 72
J. J. Cluin, for clocks.....	152 00
J. L. Hammett, for blackboards..	1,385 77
A. L. Kittredge, for preservative, shellac, paints, curtains, cord, etc	931 06
William E. Livingston, for lime, cement and gravel.....	18 95
W. H. Spalding & Co., for lead, sand, etc.....	4 10
P. J. Smith, for rags.....	1 25
E. A. & A. T. Smith, for concrete	932 10
Waldo Bros., for lathing.....	32 14
M. F. Gookin, for chairs, settees, furniture, etc.....	1,799 25
J. L. Hammett, for furniture (contract).....	3,000 00
J. L. Hammett, for slate.....	8 08
F. Blanche Hard, for typewriting	15
Buttrick & Co., for salt.....	60
Campbell & Hanscom, for advertising	9 00
Citizen Newspaper Co., for advertising	5 25
Daily News Co., for advertising,	5 25
Lowell Daily Sun, for advertising,	5 25
Benjamin Lenthier,for advertising	3 50
Morning Mail Corporation, for advertising	6 58
Vox Populi Press, for advertising	2 75
Patrick F. Brady, for teaming and labor.....	85 00
W. C. Burnett, for teaming....	3 00
D. J. Kelly, for teaming.....	7 00
D. F. Lyons, for teaming.....	15 00
T. G. Little, for teaming.....	5 00

Amount carried forward..... \$72,630 44

HIGH SCHOOL BUILDING.

35

Amounts brought forward..... \$72,630 44

Paid for SUNDRIES :

To Daniel McCarthy, for teaming..	14 00	
G. H. McNabb, for teaming.....	2 00	
William Roberts, for teaming..	11 00	
Stickney Transfer Co., for teaming.....	26 75	
Boston & Maine Railroad, Southern Division, for transportation.....	262 29	
Total expenditure for the year 1893..		*\$72,946 48
Balance undrawn Dec. 31, 1893.....		2,536 26
		<u>\$75,482 74</u>

*To this amount add the sum of \$126,330.17 expended previous to 1893, making total cost of building to Jan. 1, 1894, \$199,276.65.

OAKLANDS SCHOOL-HOUSE.

Balance undrawn, Jan. 1, 1893.....	\$8,099 08	
		\$8,099 08
Received from J. L. Hammett for freight bill paid.....	\$40 00	
		40 00
Transferred from Appropriation for School-houses.....	\$2,000 00	\$2,000 00
		<u>\$10,139 08</u>

EXPENDITURES.

Paid for SUNDRIES :

To Appropriation for School-houses, for labor.....	\$416 83
Appropriation for Roads and Bridges, for engineering....	21 50
Appropriation for Water Works, for pipe, fittings and labor...	41 00
Est. F. H. Ford, for plans, speci- fications, etc.....	187 84
Patrick F. Brady, on account of contract for foundation....	365 00
Patrick F. Brady, for mason work.....	102 50
Farrell & Conaton, for heating, ventilating and sanitary crem- ator.....	2,000 00
Maguire & Twohey, for carpenter work (contract).....	5,059 00
<i>Amount carried forward.....</i>	\$8,193 67

Amount brought forward..... \$8,193 67

Paid for SUNDRIES :

Maguire & Twohey, for carpenter work.....	26 00
Walsh & Meers, for plastering (contract).....	270 00
White & Sweatt, for brick work (contract).....	700 00
Howe Lumber Co., for lumber..	4 84
J. L. Hammett, for desks.....	381 47
M. F. Gookin, for curtains.....	52 00
Rice & Co., for window guards..	9 99
Richard Bray, for expenses of Superintendent and Clerk to Boston.....	5 00
Citizen Newspaper Co., for advertising.....	1 87
Daily News Co., for advertising..	2 25
Lowell Daily Sun, for advertising	2 88
Lowell Courier Publishing Co., for advertising.....	1 88
Morning Mail Corporation, for advertising.....	3 75
Edward Cawley, for grading, filling and coal.....	422 09
Daniel J. Kelly, for teaming....	2 50
William Roberts, for teaming..	3 00
Boston & Maine Railroad, Southern Division, for transportation.....	55 89

Total expenditure for the year 1893..

*10,139 08

* To this amount add the sum of \$1,900.92 expended in 1892, making total cost of land and building \$12,040.00.

CHELMSFORD STREET SCHOOL-HOUSE.

Balance undrawn Jan. 1, 1893.....	\$53,010 59	
	<u>53,010 59</u>	\$53,010 59

RECEIPTS.

From Appropriation for Water Works		
discount on water bills....	\$ 2 52	
P. F. Brady, for water.	3 72	
	<u>6 24</u>	6 24
		\$53,016 83

EXPENDITURES.

Paid for SUNDRIES :

To Appropriation for School-houses, for labor and material.....	116 44
Appropriation for Roads and Bridges, for engineering....	11 63
Appropriation for Water Works, for pipe, fittings and labor..	48 20
Stickney & Austin, on account of plans, specifications, etc....	500 00
American Bolt Co., for iron work,	1,135 71
Patrick F. Brady, for stone work,	355 00
D. Cushing & Co., for metal work,	1,110 00
Farrell & Conaton, on account of contract for heating and ven- tilating.....	1,533 33
Robert Goulding, for slating (con- tract)	1,990 00
<i>Amount carried forward</i>	\$6,800 31

Amount brought forward..... \$6,800 31

Paid for SUNDRIES :

To Robert Goulding, for snow irons, copper, solder, labor, etc...	126 40	
Joseph Jalbert, for brick work (contract).....	14,000 00	
D. H. Wilson & Co., for gas fittings	93 50	
William H. Wiggin, for carpenter work (contract).....	12,000 00	
J. L. Hammett, for desks.....	500 00	
Citizen Newspaper Co., for adver- tising	2 25	
Campbell & Hanscom, for adver- tising	2 44	
Daily News Co., for advertising,	2 44	
Daniel McCarthy, for teaming..	5 00	
Boston & Maine Railroad, South- ern Division, for transporta- tion.....	63 98	
Total expenditure for the year 1893..		*†\$33,596 32
Balance undrawn Dec. 31, 1893.....		19,420 51
		<u>\$53,016 83</u>

* To this amount add the sum of \$6,989.78, making total cost of land and building to Jan. 1, 1894, \$40,586.10.

† Unfinished.

ADDITION TO BUTLER SCHOOL.

Received from Lowell Institution for savings, on loan.....	\$25,000 00	
		\$25,000 00

EXPENDITURES.

Paid for SUNDRIES :

To Appropriation for Roads and Bridges, for engineering....	\$12 55	
Stickney & Austin, for plans, specifications, etc	350 00	
J. W. Bennett & Co., for brick work.....	4,325 00	
Daniel Cushing & Co., for copper work.....	1,000 00	
Chelmsford Foundry Co., for iron work.....	418 50	
W. H. Fuller, for foundation....	1,422 00	
Whittet & McDonald, for car- penter work.....	2,000 00	
Amasa Pratt & Co., for lumber..	12 00	
American Bolt Co., for irons....	1 00	
Campbell & Hanscom for adver- tising	6 25	
Citizen Newspaper Co., for adver- tising	6 00	
Daily News Co., for advertising..	5 81	
Lowell Daily Sun, for advertis- ing	4 87	
<i>Amount carried forward.....</i>		\$9,563,98

Amount brought forward..... \$9,563 98

Paid for SUNDRIES :

To Morning Mail Corporation, for advertising.....	11 00
Vox Populi Press, for advertis- ing.....	2 75

Total expenditure for the year 1893..	*9,577 73
Balance undrawn, Dec. 31, 1893.....	15,422 27
	<u>\$25,000 00</u>

* Unfinished.

ROADS AND BRIDGES.

Balance undrawn, Jan. 1, 1893.....	\$ 3,288 70	
Appropriation	85,000 00	
		\$88,288 70

RECEIPTS.

For LABOR, MATERIAL, ETC.,
as follows:

From the following Appropriations:

Schools, for teaming coal and labor	\$ 31 18	
School-houses, for labor, material and engineering.....	216 36	
Oaklands School-house, for engineering	21 50	
Chelmsford Street School-house, for engineering.....	11 63	
High School Building, for edge-stone, labor and engineering.	73 99	
Addition to Butler School, for engineering	12 55	
Watering Streets, for labor and material	586 82	
Paving, for labor and material...	3,477 02	
Paving, for services of Superintendent of Streets.....	200 00	
Pawtucket Boulevard, for labor and material.....	370 99	
Pawtucket Boulevard, for services of engineers.....	52 00	
City Cemeteries, for manure....	102 00	
<i>Amounts carried forward.....</i>	<i>\$5,156 04</i>	\$88,288.70

<i>Amounts brought forward.....</i>	\$5,156 04	\$88,288 70
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For LABOR, MATERIAL, ETC.,
as follows :

From Reserved Fund, for labor and material.....	162 68	
Reserved Fund, for engineering	238 62	
Paupers, for labor and material	8 32	
Fire Department, for labor....	3 88	
Sewers and Drains, for services of Superintendent of Streets	800 00	
Sewers and Drains, for services of City Engineer.....	527 24	
Sewers and Drains, for labor and material.....	1,323 39	
Centralville Main Sewer, for services of Superintendent of Streets	200 00	
Centralville Main Sewer, for services of City Engineer.	100 00	
Centralville Main Sewer, for labor and material.....	185 68	
Commons, for labor and material.....	122 55	
City Hall an Memorial Building, for loam.....	117 00	
City Hall & Memorial Building, for engineering.....	24 17	
Library, for teaming and labor,	170 38	
Health, for labor and material..	609 26	
Water Works, discount on bills	19 01	
Water Works, for services of City Engineer.....	400 00	
Water Works, for labor.....	41 00	
Driven Well Plant, for crushed stone.....	1 50	
Driven Well Plant, for services of City Engineer.....	400 00	
Robert E. Crowley, for sale of material, labor, etc.....	613 53	
Abner S. Adams, for crushed stone.....	24 00	
Frederick Ayer, for crushed stone.....	24 00	
<i>Amounts carried forward.....</i>	<u>\$11,272 25</u>	<u>\$88,288 70</u>

Amounts brought forward..... \$11,272 25 \$88,288 70

For LABOR, MATERIAL, ETC.,
as follows :

From John Ames, for edgestone and labor	49 37
J. W. Bennett, for labor.....	14 75
Josiah Butler, for labor.....	72 16
James Baxter, for edgestone and labor.....	9 17
P. H. Britton, for manure....	9 00
P. A. Brousseau, for coal.....	12 79
B. G. Brown, for manure.....	38 00
E. J. Benner, for manure.....	1 00
Sam. Chapin, for sand, lime, stone, labor, etc.....	356 74
A. K. Chadwick, for cost on summons.....	70
A. A. Coburn, for crushed stone	74 00
County of Middlesex, for manure and labor.....	113 01
Thomas Costello, for crushed stone.....	8 00
John Davis, for crushed stone.	40 00
J. C. Donovan, for overdraft..	20
Annie S. and Horace S. Bacon and Margaret B. Lyman, for land on Marginal Street	21 50
Geo. E. Evans, for manure....	4 00
Edward Fitzgerald, for overdraft	10 50
M. Flahavan, for manure.....	3 00
Hugh Golden, for overdraft...	3 50
J. N. Hodge, for manure.....	6 00
Charles C. Hutchinson, for crushed stone.....	16 00
Lowell and Suburban Street Railway Co., for crushed stone and labor.....	31 13
Lowell Electric Light Corporation, for labor.....	8 00
M. G. Leonard, for teaming..	2 00
New England Telephone and Telegraph Co., for brick and labor.....	38 11

<i>Amounts carried forward</i>	\$12,214 88	\$88,288 70
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Amounts brought forward..... \$12,214 88 \$88,288 70

For LABOR, MATERIAL, ETC.,
as follows :

From Percy Parker, for crushed stone.....	16 00	
Pevey Bros., for crushed stone and labor.....	53 63	
Nathan Parker, for manure...	1 00	
Frank Puffer, for manure.....	1 00	
A. G. Pollard, for flagging and labor.....	36 24	
Addison Putnam, for crushed stone.....	2 75	
Frank P. Putnam, for crushed stone.....	2 75	
Mrs. C. E. Rand, for labor....	6 87	
E. A. Smith, for edgestone and labor.....	55 44	
Patrick Shea, for overdraft...	4 00	
Frank K. Stearns, for manure,	1 00	
H. B. Shattuck, for paving stone.....	8 00	
Daniel F. Sullivan, for lime, cement, stone and labor..	29 23	
Sheppard, Russell & Co., for crushed stone.....	4 00	
E. M. Tucke, for edgestones and cobbles.....	16 27	
Theodore Towner, for overdraft.....	12 00	
F. B. Trull, for manure.....	4 00	
White Bros. & Co., for crushed stone.....	8 00	
James Whittet, for crushed stone and labor.....	11 00	
Lee, Higginson & Co., on loan,	20,000 00	
		32,488 06

Received for SIDEWALK ASSESSMENTS :

B STREET.

From Charles P. Lynde.....	\$42 32	
<i>Amounts carried forward</i>	\$42 32	\$120,776 76

Amounts brought forward..... \$ 42 32 \$120,776 76

Received for SIDEWALK AS-
SESSMENTS :

BACHELDER PLACE.

From Lucy Brown.....	21 25
Eugene A. Clark.....	18 03
Charles E. Leavitt.....	16 10
Daniel J. Murphy.....	23 57
Alexander Mullen.....	15 18
Peter E. Riley.....	14 77
Willard A. Wheeler.....	17 25
Ichabod Whittemore.....	12 97
Pelatiah J. Wright.....	15 41

BASSETT STREET.

Michael A. Madigan.....	15 15
John Rogers.....	16 63
Albert Stopherd.....	14 79
John Thompson.....	14 94

BROADWAY.

Thomas Delaney.....	48 74
Edward H. Morse.....	139 97

CANTON STREET.

George W. Fifield.....	22 32
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CHELMSFORD STREET.

Amos B. Adams.....	23 52
John Bailey.....	24 50
Joseph S. Barker.....	24 50
Orlando Blodgett's Estate.....	165 77
Elizabeth E. Blodgett.....	45 31

<i>Amounts carried forward</i>	<u>\$752 99</u>	<u>\$120,776 76</u>
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<i>Amounts brought forward.....</i>	\$752 99	\$120,776 76
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Received for SIDEWALK AS-
SESSMENTS :

CHELMSFORD STREET.

From Joseph E. Blood.....	34 00	
G. C. Brock.....	76 06	
Mary Cahill.....	38 36	
Nathan Carp.....	28 42	
Elzadia M. Chamberlin.....	27 44	
Lorenzo Chase.....	48 95	
Chelmsford Street Free Bap- tist Society.....	72 12	
James Conners.....	48 46	
Phillip Conners, Heirs of.....	170 92	
Edmond W. Douglass.....	33 98	
Mrs. Samuel J. Gibbey's Estate,	22 93	
Kate Gill.....	32 10	
Jennie Greenberg.....	28 68	
John Harriman.....	56 78	
Mrs. Henry H. Harvey.....	23 62	
B. F. Heald.....	42 26	
George L. Huntoon.....	53 26	
Orrin Hutchinson.....	188 94	
Ozro Hutchinson.....	22 64	
Henry C. Howe and John F. Howe's Estate.....	24 50	
Francis Jewett.....	27 29	
Francis Jewett.....	35 08	
Francis' Jewett.....	18 62	
Julia M. Kelly.....	51 16	
Lydia M. Kimball.....	37 78	
Patrick Lynch.....	27 70	
John W. Morse.....	31 36	
Willis E. Morse.....	37 24	
Mary Prudhomme.....	37 24	
Stephen B. Puffer.....	48 36	
George B. Root.....	34 30	
A. L. Russell ;.....	58 80	
John E. Richardson's Estate..	21 41	
Horace B. Shattuck.....	22 05	
Ezra Sheldon's Heirs.....	228 24	
<i>Amounts carried forward.....</i>	\$2,544 04	\$120,776 76

Amounts brought forward..... \$2,544 04 \$120,776 76

Received for SIDEWALK AS-
SESSMENTS :

CHELMSFORD STREET.

From Joseph Welch.....	29 00
Charles G. Wyman.....	34 40
Samuel B. Wyman.....	23 91

FLETCHER STREET.

Mary Fitzgerald.....	39 52
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FORT HILL AVENUE.

Alice Murphy.....	54 58
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TREMONT STREET.

Ann Boyd.....	20 48
Bird C. Reed.....	14 13

GATES STREET.

E. A. Bigelow & H. F. Barnes,	29 15
Children of Josiah Gates.....	65 46
Children of Josiah Gates.....	268 29
Children of Josiah Gates.....	20 62

HARVARD STREET.

Lowell Highland Club.....	149 64
Charles W. Wilder.....	55 11

HOVEY STREET.

Sheppard, Russell & Co.....	56 28
Sheppard, Russell & Co.....	103 40

<i>Amounts carried forward</i>	\$3,508 01	\$120,776 76
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ROADS AND BRIDGES.

49

Amounts brought forward..... \$3,508 01 \$120,776 76

Received for SIDEWALK AS-
SESSMENTS:

LAWRENCE STREET.

From Appropriation for Public
Buildings..... 71 10

LEVERETT STREET.

Mrs. J. T. Adams.....	28 01
Oliver Flint's Estate.....	26 32
Charles E. Jameson.....	20 07
John H. Kennedy.....	53 72
Thomas McMahon.....	23 21
Norman Bros.....	47 00
Charles Nelson.....	27 26
Jacob Norris.....	23 31
Joseph Norris.....	23 55
James W. Purcell.....	23 17
George W. Roberts.....	70 50
Alonzo N. Smith.....	62 23
Alonzo N. Smith.....	72 67
Thomas Vaughn.....	32 81
Charles W. Wheeler.....	23 97

MAMMOTH ROAD.

Appropriation for School houses 25 28

MASON STREET.

Harriet M. Corey.....	34 50
Frank E. Lewis.....	140 03
George F. Penniman.....	31 27
James E. White.....	38 53
William H. Wright.....	34 50

Amounts carried forward..... \$4,441 02 \$120,776 76

Amounts brought forward..... \$4,441 02 \$120,776 76

Received for SIDEWALK AS-
SESSMENTS:

MERRILL STREET.

From Dennis Dilworth..... 19 61

MEADOWCROFT STREET.

Lowell Bleachery.....	89 25
Andrew P. Miller.....	25 50
Swedish Lutheran Church....	25 50

OAKLAND STREET.

Charles O. Billings.....	86 47
Ellen G. Burnap.....	30 93
Isabella H. Graham.....	34 50
Mary J. Langley.....	35 55
William E. Newton.....	28 30

PALMER STREET.

James C. Ayer's Estate.....	64 63
Thomas Nesmith's Estate....	63 01
Thomas Nesmith's Estate....	60 90
Thomas Nesmith	40 93

PERRY STREET.

James Brosnan.....	36 26
Mary Dwyer.....	20 09
Mary Dwyer.....	20 58
Robert Goulding.....	32 19
E. A. Smith and F. B. Shedd.	67 18
E. A. Smith and F. B. Shedd.	24 50
White Brothers & Co.....	73 60

<i>Amounts carried forward</i>	\$5,320 50	\$120,776 76
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ROADS AND BRIDGES.

51

Amounts brought forward..... \$5,320 50 \$120,776 76

Received for SIDEWALK AS-
SESSMENTS:

PHILLIPS STREET.

From Joseph E. Armstrong.....	32 14
Charles M. Dickey.....	31 90
Thomas H. Elliott.....	61 08
Thomas H. Elliott.....	37 03
John P. Quinn.....	38 19

PINE STREET.

Mary A. McIntire.....	30 91
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PLEASANT STREET.

James Reilly.....	47 00
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POWELL STREET.

Appropriation for School- houses	76 39
Abby E. Fletcher.....	42 04
Hannah E. Haley.....	29 91

PRINCETON STREET.

George B. Allen's Estate.....	29 40
William O. Brown.....	39 29
Josiah Butler.....	133 76
Daniel Floyd.....	45 07
Ethan A. Smith.....	42 48

RIVERSIDE STREET.

George C. Osgood.....	53 93
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<i>Amounts carried forward</i>	<u>\$6,091 02</u>	<u>\$120,776 76</u>
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Amounts brought forward..... \$6,091 02 \$120,776 76

Received for SIDEWALK AS-
SESSMENTS:

SCHOOL STREET.

From Sarah E. Pratt.....	37 15
Charles H. Ricker.....	50 43
Daniel F. Sullivan.....	37 15

SHERMAN STREET.

Alice E. Murphy.....	27 35
James Reilly.....	49 09

SIXTH STREET.

Ann Boyd.....	18 72
Charles F. Hemenway.....	15 44
Adeline N. Thissell.....	18 68

SOUTH WALKER STREET.

Edwin E. Arey.....	35 08
Roger G. Allison.....	31 05
Frank W. Cragin.....	31 36
Carrie M. Ela.....	38 22
Mrs. Charles E. Gordon.....	32 26
William Gillam.....	35 18
Charles H. Howell.....	31 28
Jane E. Hustwick.....	31 19
Mary Lee.....	34 53
Frank E. Lewis.....	34 05
Frank E. Lewis.....	31 40
Edgar E. Linnell.....	34 77
George F. Penniman.....	77 40
George F. Penniman.....	20 87
George F. Penniman.....	34 90
George F. Penniman.....	21 08
George F. Penniman.....	19 82

<i>Amounts carried forward</i>	<u>\$6,919 47</u>	<u>\$120,776 76</u>
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ROADS AND BRIDGES.

53

Amounts brought forward..... \$6,919 47 \$120,776 76

Received for SIDEWALK AS-
SESSMENTS:

SOUTH WALKER STREET.

From Charles S. Proctor.....	34 77
William E. Savage.....	31 27
Volney Sprague.....	34 90
James E. White.....	62 35

TALBOT STREET.

John Nesmith's Estate.....	66 78
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THORNDIKE STREET.

Catherine Carroll.....	35 28
John Frawley.....	18 28
John Green.....	21 56
Dennis Murphy.....	26 12
George H. Barr.....	26 46
Mary J. Perrin.....	13 18
Asahel D. Puffer.....	85 11
Samuel C. Shirley.....	30 47
Mrs. Thomas Sugden.....	25 43

UNION STREET.

John Quinn.....	31 28
Andrew C. Wheelock.....	84 63

WARWICK STREET.

David Harding.....	78 44
Edwin A. Robinson.....	78 50

<i>Amounts carried forward</i>	<u>\$7,705 28</u>	<u>\$120,776 76</u>
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Amounts brought forward..... \$7,705 28 \$120,776 76

Received for SIDEWALK AS-
SESSMENTS:

WENTWORTH AVENUE.

From William H. Anderson.....	28 89
George P. Dudley.....	29 00
Oliver H. P. Green.....	34 80
Daniel S. Hoyt.....	75 38
Charles I. Hood.....	90 19
Mrs. George W. Hilton.....	25 87
Francis C. Lawrence.....	29 00
Susan E. Nealy.....	29 00
George E. Newcomb.....	34 80
Fred C. Piper.....	29 00
Sheppard, Russell & Co.....	80 11
Sheppard, Russell & Co.....	58 00

WESTFORD STREET.

Archibald B. Blair.....	74 42
John L. Cheney.....	88 38
Caliste T. Childs.....	42 15
Michael Flannigan.....	24 84

WHIPPLE STREET.

Jesse N. Bassett.....	18 74
James Holden's Estate.....	46 44
Samuel Lawrence.....	25 92
Phillip Lynch.....	27 50
Patrick Malony.....	40 08
Ruth and Frances Morrill....	15 71
John Nolan.....	28 01

\$8,681 51

Transferred from Reserved Fund....

\$129,458 27

5,000 00

\$134,458 27

EXPENDITURES.

To Robert E. Crowley, Superintendent of Streets, salary.....	\$2,000 00	
George Bowers, Civil Engineer, salary.	2,700 00	
		\$4,700 00

Paid Sundry persons for LABOR,
AS FOLLOWS :

In January	\$7,239 25	
February	6,304 57	
March.....	8,564 31	
April	7,606 20	
May....	6,629 10	
June.....	6,405 25	
July	8,310 73	
August.....	6,355 38	
September.....	8,286 87	
October	6,419 23	
November	7,655 99	
December	6,960 26	
		86,737 14

Paid for FUEL :

To Appropriation for Paupers, for wood.....	\$ 54 25	
Edward Cawley, for coal.....	151 66	
Connors Bros., for coal.....	26 33	
William Kittredge Co., for coal.	98 67	
William E. Livingston, for coal..	150 18	
		481 09

Paid for HAY, GRAIN, ETC. :

To H. P. Beals, for hay.....	\$ 166 00	
Joseph Bowers, for hay.....	140 50	
Amounts carried forward.....	\$306 50	\$91,918 23

Amounts brought forward..... \$ 306 50 \$91,918 23

Paid for HAY, GRAIN, ETC.:

To William H. Emery, for hay.....	318 20	
William P. Foye, for oats, shorts, etc	690 48	
W. C. Hamblett, for hay.....	247 65	
C. H. Hanson & Co., for hay....	413 60	
William E. Livingston, for oats..	139 50	
T. J. McDonald, for oats, corn, etc.....	1,001 00	
E. S. Sherman & Co., for oats, etc.....	901 06	
Paul Vigeant, for hay.....	184 35	
E. N. Wood, for hay, oats, corn, etc.....	3,753 45	
E. N. Wood & Co, for hay, oats, corn, straw, etc.....	553 91	
O. D. Wilder, for corn, meal, shorts, etc.....	264 72	
		8,774 42

Paid for L U M B E R, S T O N E,
B R I C K, C E M E N T, E T C.:

To A. P. Bateman, for lumber.....	\$ 284 01	
Burnham & Davis, for lumber...	688 13	
Davis & Sargent, for lumber....	22	
Howe Lumber Co, for lumber...	1,220 04	
Mark Holmes, Jr., & Son, for lum- ber	37 35	
C. H. Hanson & Co., for lumber.	76 62	
Amasa Pratt & Co., for lumber..	34 05	
Joseph Bowers, for filling.....	69 85	
Connors Bros., for lime and cem- ent	6 00	
C. J. Cheney, Jr, for brick.....	35 20	
Edward Cawley, for drain pipe..	37 96	
Frank Downs, for circle stone...	206 97	
M. F. Downs, for circle stone...	39 16	
H. E. Fletcher & Co., for edge- stone, etc.....	7,042 68	
<i>Amounts carried forward</i>	\$9,778 24	\$100,692 65

Amounts brought forward..... \$9,778 24 \$100,692 65

Paid for L U M B E R, S T O N E,
BRICK, CEMENT, ETC.:

To William E. Livingston, for brick, lime and cement.....	107 44	
John Marinell, for stone.....	25 22	
Lewis P. Palmer, for flagging...	1,276 80	
William Reed & Co., for stone...	35 00	
Charles Runels, for stone.....	15 00	
E. & A. T. Smith, for concrete..	4,700 00	
		\$15,938 10

Paid for HARDWARE, TOOLS,
ETC.:

To Charles E. Adams, for hardware,	\$ 18 39	
American Bolt Co., for nuts, bolts, etc.....	2 75	
Bartlett & Dow, for hardware, tools, etc.....	477 90	
J. C. Bennett, for hardware.....	46 26	
J. W. Bennett & Co., for tins and nails	1 02	
Boutwell Bros., for springs, shoes, iron, steel, etc.....	688 50	
D. Blackington, for rods and nuts	1 25	
Callahan & Sanborn, for hardware and tools.....	98 31	
F. W. Cheney & Co, for hard- ware	9 54	
C. G. Coburn, for tools.....	3 95	
Highland, Nightingale & Co., for recutting rasps	17 90	
Lowell Iron Co., for files, springs, irons, etc.....	54 03	
Nashua Rasp Co., for rasps.....	4 75	
H. B. Shattuck & Son, for hard- ware and tools.....	13 40	
Thompson Hardware Co., for hardware and tools.....	17 46	
Wadsworth, Howland & Co., for tools	3 12	
		1,458 53
<i>Amount carried forward</i>		\$118,089 28

Amount brought forward..... \$118,089 28

Paid for HORSES, CARRIAGES,
HARNESSES, ETC.:

To Appropriation for Police, for horse.....	\$ 150 00	
Charles Clapp, for horses.....	500 00	
Eli Hebert, for horse.....	200 00	
Archibald Wheel Co., for hub bands.....	80	
Abbott Downing Co., for refilling street sweeper.....	25 00	
F. J. Doherty, for painting wagon	25 00	
Fay Bros. & Hosford, for repairing carriages.....	72 98	
C. H. Hanson & Co., for wagon, jack and sleigh.....	81 50	
Lowell Iron Co., for wheels.....	24 25	
A. L. Macrae, for Concord wagon,	175 00	
H. J. O'Dowd & Co., for sleigh and bells.....	50 75	
Sawyer Carriage Co., for repairing wagons.....	22 60	
T. M. Bolton, for robe, harness and repairing.....	416 91	
J. C. Donovan, for brushes, repairing harnesses, etc.....	158 00	
Josiah Gates & Sons, for leather.	16 40	
M. J. Sullivan, for collars, straps, saddles, whips, repairing harnesses, etc.....	244 10	
		\$2,163 29

Paid for LAND, DAMAGES,
ETC.:

To Estate Ellen T. Churchill, for 12,085.5 square feet of land, taken in extending Third Street.....	\$1,570 46	
Daniel S. Gray, for 5,563.2 square feet of land taken in extending Mason Street.....	834 48	
<i>Amounts carried forward</i>	\$2,404 94	\$120,252 57

<i>Amounts brought forward.....</i>	\$2,404 94	\$120,252 57
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Paid for LAND, DAMAGES,
ETC.:

To George E. Metcalf, for 9,554.5 square feet of land taken in extending Third Street.....	764 36	
Sarah A. Nicholls, 5,086 square feet of land taken in laying out Ludlam Street.....	1,031 67	
Stephen B. Puffer, for 4,595 square feet of land taken in extend- ing Prospect Street.....	2,000 00	
Phineas Whiting, for 3,052.8 square feet of land taken in extending Sargent Street...	457 92	
Samuel B. Palmer, for damage to carriage	12 00	
		6,670.89

Paid for SUNDRIES:

To Appropriation for Watering Streets, for labor and team- ing.....	\$1,858 00	
Appropriation for Watering Streets, for assessments.....	28 12	
Appropriation for Water Works, for water.....	440 05	
Lowell Gas Light Co., for gas...	129 76	
Lowell Electric Light Corpora- tion, for lighting.....	180 32	
New England Telephone and Telegraph Co., for service..	79 48	
O. E. Averill, for blacksmithing..	1 00	
Abbott-Downing Co., for repair- ing and refilling street sweepers	125 00	
Buff & Berger, for repairing transit.....	13 00	
George L. Cady, for labor.....	30	
<i>Amounts carried forward.....</i>	\$2,855 03	\$126,923 46

<i>Amounts brought forward.....</i>	\$2,855 03	\$126,923 46
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Paid for SUNDRIES :

To W. W. Carey, for labor on surveyor's rods.....	5 04
T. Costello & Co., for copper float, linings, labor, etc.....	97 61
Drury & Green, for pipe, fittings, and labor.....	119 69
Farrell & Conaton, for pipe, fittings and labor.....	19 82
Farrell Foundry & Machine Co., for repairing stone crusher..	287 86
Charles T. Haskell, for filing saws	7 92
S. H. Jones, for hose.....	25 00
Lowell Steam Boiler Works, for steel and labor.....	2 45
Lowell Iron Co., for iron.....	133 15
A. Nourborn, for labor and material	99 58
Nason B. Parsons, for filing saws,	18 98
Jerry Ryan, for tin, solder, labor, etc.....	29 76
Scannell & Wholey, for steel, labor, etc.....	34 85
A. Simard, for repairing clock...	50
H. H. Wilder & Co., for oil can,	1 50
C. B. Coburn & Co., for oil can, brooms, rope, etc.....	130 00
Carleton & Hovey, for chamois skin.....	65
William Clee, for harness dressing	4 00
Simon Dean, for salve.....	10 00
Donovan & Co., for brooms, forcite, exploders, etc.....	365 56
Charles F. Dow, for baskets and lanterns	9 50
Edson Manufacturing Co., hose couplings, diaphragms, etc..	67 86
J. F. Fuller & Co., for ointment	8 00
W. H. Gibson, for ointment.....	4 00

<i>Amounts carried forward.....</i>	\$4,338 31	\$126,923 46
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<i>Amounts brought forward.....</i>	\$4,338 31	\$126,923 46
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Paid for SUNDRIES :

To Charles O. Gilman, for broom material.....	33 25
Daniel Gage, for ice.....	6 71
Josiah Gates & Sons, for leather,	15 13
P. M. Jefferson & Co., for soap..	38 00
T. H. Kittredge, for broom material.....	19 50
A. L. Kittredge, for ink and paper....	6 00
F. Laughton, Assignee, for oil...	1 25
John G. Lesure, for medicine....	6 00
William P. Miller Co., for axle grease.....	7 50
A. Nixon, for sulphur.....	2 20
William Nichols & Co., for dualin and powder.....	17 75
J. E. Phipps, for axle grease....	9 00
J. F. Puffer & Son, for globes, wicks, jars, brooms, etc.....	37 60
Smith & Goold, for lotion.....	27 00
W. H. Spalding & Co., for paper, pencils, colors, etc.....	20 36
Spencer & Co., for signs.....	2 10
Tweed Liniment Co., for liniment	5 00
H. O'Sullivan, for rubber boots..	3 00
O'Donnell & Gilbride, for mirror	2 25
T. S. Buck, for stamp.....	1 50
Bachelor, Dumas & Co., for blank books.....	14 00
F. Blanche Hard, for typewriting	2 60
Joseph E. Kierstead, for crayons,	1 00
Lyon Platinum Pen Co., for pens,	3 00
Thomas H. Lawler, for stationery, etc.	37 05
J. Merrill & Son, for blank books and maps.....	9 10
G. C. Prince & Son, for blank books and envelopes.....	6 75
Taylor Bros., for blank books, pens, etc.....	20 21

<i>Amounts carried forward.....</i>	\$4,693 12	\$126,923 46
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<i>Amounts brought forward.....</i>	\$4,693 12	\$126,923 46
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Paid for SUNDRIES :

To Campbell & Hanscom, for envelopes, printing and advertising	35 50
Citizen Newspaper Co., for advertising	12 12
Daily News Co., for advertising..	6 00
Daily News Job Print, for printing	10 50
Lowell Sun, for printing.....	43 00
Lowell Courier Publishing Co., for advertising	7 50
Morning Mail Corporation, for advertising.....	5 67
Vox Populi Press, for blank books and advertising.....	21 75
George Bowers, for postage, car fare, etc.....	18 15
Robert E. Crowley, for expenses of committee.....	327 55
A. Y. Caswell, for mileage books,	60 00
James Hickey, for moving building	60 00
Thomas C. Lee, for insurance....	100 00
Town of Dracut, for taxes of 1893	25 63
A. H. McCann, for professional services	30 50
L. J. McDonough, for professional services	35 00
J. H. Sparks, for professional services.....	4 00
Jesse A. Viles, for professional services....	24 00
Keyes & Co., for carriage hire...	10 00
P. E. McNulty, for carriage hire,	10 00
J. E. O'Donnell, for carriage hire.....	10 00
F. E. Stowell, for carriage hire..	82 00
J. H. Sparks, for carriage hire...	21 00
American Express Co., for transportation	4 70

<i>Amounts carried forward.....</i>	\$5,657 69	\$126,923 46
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<i>Amounts brought forward.....</i>	\$5,657 69	\$126,923 46
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Paid for SUNDRIES :

To Boston & Maine Railroad, for mileage ticket and transpor- tation	20 25	
Boston & Maine Railroad, South- ern Division, for transpor- tation	9 55	
Lovejoy-Paul Express Co., for transportation	50	
New York & Boston Despatch Ex- press Co., for transportation,	1 35	
G. E. Stanley, for transportation,	35 00	
		\$5,724 34
Total expenditure for the year 1893..		\$132,647 80
Balance undrawn Dec. 31, 1893.....		1,810 47
		\$134,458 27

REMOVAL of RAILROAD in MOODY STREET.

Received from Lowell Institution for Savings, on loan.....	\$17,000 00	
	<u> </u>	\$17,000 00

EXPENDITURES.

Paid Merrimack Manufacturing Co., per resolution.....	\$17,000 00	
		<u>\$17,000 00</u>

WATERING STREETS.

Balance undrawn Jan. 1, 1893.....	\$6,467 77	
	<u>\$6,467 77</u>	\$6,467 77

RECEIPTS.

From Sundry Persons, assessments of		
1892	\$ 877 58	
Sundry Persons, assessments of		
1893	6,782 80	
Appropriation for Roads and		
Bridges, for teaming...	2,075 00	
Appropriation for Paving, for		
teaming	2 00	
Appropriation for Pawtucket		
Boulevard, for teaming...	125 00	
Appropriation for Sewers and		
Drains, for teaming.....	145 00	
Appropriation for Water		
Works, for discount on		
bills.....	19 12	
Appropriation for Driven Well		
Plant, for teaming.....	16 00	
Robert E. Crowley, for sale of		
horses and manure.....	250 19	
D. J. Williams, for manure....	30 00	
Lowell Institution for Savings,		
on loan.....	8,000 00	
	<u>18,322 69</u>	
		\$24,790 46

EXPENDITURES.

Paid for SUNDRIES :

To Sundry persons, for labor.....	\$7,518.39
Appropriation for Roads and Bridges, for labor and mate- rial	586 82
Appropriation for Watering Streets, for assessment....	6 10
Appropriation for Water Works, for pipe, etc.....	37 14
Appropriation for Water Works, for water.....	191 25
Burnham & Davis, for lumber...	2 36
Howe Lumber Co., for lumber...	124 16
Amasa Pratt & Co., for lumber..	16 52
Charles E. Adams, for hard- ware	2 03
Boutwell Bros., for hardware....	19 28
H. R. Barker Manufacturing Co., for valves, labor, etc.....	27 15
J. C. Bennett, for hardware.....	5 88
T. Costello & Co., for pipe, fit- tings, stove, etc.....	288 23
Drury & Green, for valves, labor, etc.....	56 26
Derby & Morse, for wiring and connecting lights.....	13 00
Jerry Ryan, for repairing, water- ing carts.....	56 65
Thompson Hardware Co., for hardware.....	20
T M. Bolton, for harness and re- pairing.....	97 60
Robert Barris, for pads and gall cure	1 75
J. C. Donovan, for harness and repairing.....	94 95
C. H. Hanson & Co., for harnesses and horses.....	1,001 50
M. J. Sullivan, for harness and repairing	80 35
<i>Amount carried forward.....</i>	\$10,227 57

Amount brought forward..... \$10,227 57

Paid for SUNDRIES:

To Bacheller, Dumas & Co., for blank book.....	2 75
Connors Bros., for lime and cement.....	4 45
C. B. Coburn & Co., for oil and sulphur....	1 18
Donovan & Co., for salt.....	5 00
Goodyear Gossamer Co, for hose	2 75
Josiah Gates & Sons, for hose...	7 00
Estate F. A. Hildreth, for rent of stable.....	22 00
Lowell Electric Light Corporation for lighting.....	34 30
John G. Lesure, for medicine....	6 00
J. E. Phipps, for axle grease....	30 00
Smith & Goold, for lotion.....	18 00
W. P. Foye, for hay, oats and shorts.....	1,656 75
William E. Livingston, for oats..	102 75
T. J. McDonald, for oats and corn.....	541 74
E. S. Sherman & Co., for oats, etc.....	496 36
E. N. Wood, for hay and oats.....	690 44
O. D. Wilder, for shorts and corn	61 95
Charles Clapp, for horses.....	1,300 00
J. L. and H. Potter, for street sprinklers.....	1,905 00
Robert E. Crowley, for expenses of committee.....	69 80
Thomas C. Lee, for insurance...	100 00
A H. McCann, for professional services.....	14 00
W. A. Sherman, for professional services.....	6 00
American Express Co., for transportation	20

Amount carried forward..... \$17,305 99

Amount brought forward..... \$17,305 99

Paid for SUNDRIES :

Boston and Maine Railroad,
Southern Division, for trans-
portation..... 75 00

Total expenditure for the year 1893..	\$17,380 99
Balance undrawn Dec. 31, 1893.....	7,409 47
	\$24,790 46

PAVING.

Balance undrawn Jan. 1, 1893.....	\$64 55	
	\$64 55	\$ 64 55

RECEIPTS.

From Jerry Delehanty, for overdraft,	\$ 1 75	
James McNamara, for overdraft.....	7 00	
Merrimack Manufacturing Co., for labor on Moody Street railroad	1,841 94	
Lowell Institution for Savings, on loan.....	30,000 00	
Lee, Higginson & Co., on loan,	5,000 00	
		\$36,850 69
		\$36,915 24

EXPENDITURES.

Paid for SUNDRIES :

To Sundry persons, for labor.....	\$7,109 34	
Appropriation for Roads and Bridges, for labor and services of Superintendent of Streets	3,677 02	
Appropriation for Watering Streets, for labor.....	2 00	
<i>Amount carried forward.....</i>	<i>\$10,788 36</i>	

Amount brought forward..... \$10,788 36

Paid for SUNDRIES :

Patrick F. Brady, for paving blocks.....	9,195 97	
Brown Bros., for paving blocks..	280 64	
Michael Carr, for paving blocks..	55 28	
James Burns, for paving blocks..	44 63	
Edward Cawley, for paving blocks.....	13,340 98	
Frank Downs, for paving blocks,	499 00	
Charles M. Erskine, for paving blocks.....	112 38	
H. E. Fletcher & Co., for paving blocks.....	632 77	
Thomas McCarty, for paving blocks.....	42 32	
Lewis P. Palmer, for paving blocks.....	166 44	
Charles F. Shughrue, for paving blocks.....	120 80	
Bartlett & Dow, for picks.....	13 00	
C. B. Coburn & Co., for oil.....	6 75	
Merrimack Woolen Mills, for sand	35 50	
J. F. Puffer & Son, for lanterns	4 50	
E. S. Sherman & Co., for oatmeal	6 00	
Robert E. Crowley, for expenses of Committee	17 45	
Vox Populi Press, for advertising	4 50	
Total expenditure for the year 1893..		\$35,367 27
Balance undrawn, Dec. 31, 1893.....		1,547 97
		<u>\$36,915 24</u>

PAWTUCKET BOULEVARD.

Balance undrawn Jan. 1, 1893.....	\$	694 55	\$694 55
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RECEIPTS.

From Boston & Maine Railroad, for pipe broken.....	1 87		
Michael McKenna, for over- draft.	10 50		
Lowell Institution for Savings, on loan.....	9,900 00		
		9,912 37	
		\$10,606 92	
Transferred from Reserved Fund....		30 15	
		\$10,637 07	

EXPENDITURES.

Paid for SUNDRIES :

To Sundry persons, for labor.....	\$7,009 84	
Appropriation for Roads and Bridges, for manure and labor.....	422 99	
Appropriation for Watering Streets, for teaming.....	125 00	
Burnham & Davis, for lumber...	45 03	
<i>Amount carried forward.....</i>	<i>\$7,602 86</i>	

Amount brought forward..... \$7,602 86

Paid for SUNDRIES :

To	Howe Lumber Co., for lumber...	87 09
	Charles E. Adams, for hardware.	54
	J. C. Bennett, for hardware and tools.	8 74
	Bartlett & Dow, for hardware and tools.	385 17
	Boutwell Bros., for iron.....	2 35
	H. R. Barker Manufacturing Co., for pipe, fittings and labor..	6 70
	T. Co-tello & Co., for pipe, valves and labor.....	26 20
	Drury & Green, for pipe, fittings and labor.....	29 26
	Joel Knapp & Son, for repairing lawn mowers.....	6 75
	Rice & Co., for sand screen.....	7 50
	Thompson Hardware Co., for hardware and tools.....	6 75
	George J. Carney, for gravel....	6 25
	Frank Downs, for stone steps and teaming.....	16 50
	M. J. Sullivan, for stone.....	177 00
	O. R. Park, for sand.....	37 40
	J. W. Bennett & Co., for zinc roofing.....	45 70
	H. O'Sullivan, for boots.....	14 00
	C. G. Coburn, for oil, globe, fork, stone, etc.....	84 81
	C. B. Coburn & Co., for oil, globe, lime, broom, etc.....	8 34
	Edward Cawley, for pipe and cement.....	31 18
	B. P. Follansbee, for trees.....	41 60
	A. L. Kittredge, for oil, paint, brush, etc.....	22 45
	F. Lawton, Assignee, for lead, paint, etc.....	11 98
	Thomas C. Lee, for insurance....	25 00
	Lowell Bone Fertilizer Co., for fertilizer.....	14 00
	T. J. McDonald, for oatmeal....	5 50

Amount carried forward..... \$8,711 62

Amount brought forward..... \$8,711 62

E. S. Sherman & Co., for oatmeal	6 19
J. L. & H. K. Potter, for water- ing cart.....	400 00
Spencer & Co, for sign.....	50
Keyes & Co., for teaming.....	391 00
George H. McNabb, for teaming.	290 25
Redmond Welch, for teaming...	403 00
David J. Williams, for teaming..	293 25
John F. Webster, for use of horse	138 00
Boston & Maine Railroad, for transportation.....	3 26

Total expenditure for the year 1893..

\$10,637 07

CITY CEMETERIES.

Appropriation.....	3,000 00	
	3,000 00	\$3,000 00

RECEIPTS.

From Appropriation for Water Works, for discount on bills,	\$18 97	
William W. Clark, for deeds, sale and care of lots, etc.....	6,520 50	
	6,539 47	\$6,539 47
Transferred from Reserved Fund....		9,539 47
		1,550 00
		\$11,089 47

EXPENDITURES.

Paid for SUNDRIES:

To Sundry persons for labor.....	\$5,518 25	
Appropriation for Roads and Bridges, for manure.....	102 00	
Appropriation for Watering Streets, for assessments....	34 31	
	5,654 56	
<i>Amount carried forward.....</i>		\$5,654 56

Amount brought forward..... \$5,654 56

Paid for SUNDRIES:

To Appropriation for Public Buildings, for labor and material..	2 57
Appropriation for Water Works, for water.....	189 82
Burnham & Davis, for lumber...	54 34
J. W. Bennett & Co., for clapboards.....	45 00
Howe Lumber Co., for lumber...	115 39
Amasa Pratt & Co., for lumber..	22 43
Stickney & Austin, for drawings.....	20 00
Bartlett & Dow, for hardware and tools.....	257 97
Boutwell Bros., for hammer.....	6 63
H. R. Barker Manufacturing Co., for pipe, fittings and labor.....	9 63
T. Costello & Co., for pipe, fittings and labor.....	215 33
Charles T. Haskell, for filing saws	50
Joel Knapp & Son, for sharpening lawn mower.....	1 25
Pevey Bros., for castings.....	4 08
C. N. Rice, for filing saws.....	2 15
Rice & Co., for screen.....	7 50
C. Zimmer, for keys.....	45
George F. Allen, for repairing harness.....	5 75
H. F. Ebert, for collar, harness and repairing.....	78 50
E. P. Bryant, for sled.....	45 00
Henry K. Ferrin, for sleigh.....	13 00
Fay Bros. & Hosford, for repairing carriage.....	75
Mark Holmes, Jr. & Son, for wheelbarrow hub.....	50
E. P. McCoy & Co., for whiffletree.....	1 00
Ira Atwood, for hay.....	15 07
George E. Butters, for hay.....	53 38

Amount carried forward..... \$6,822 55

Amount brought forward..... \$6,822 55

Paid for SUNDRIES :

To J. B. Cover & Co., for colic cure	1 00
T. J. McDonald, for hay, oats, etc.....	124 37
Andrews & Wheeler, for slate and teaming.....	11 30
C. B. Coburn & Co., for oil, glass, glue, etc.....	19 95
W. W. Clark, for car fare, rent of stable, postage, etc.....	141 83
J. B. Currier, for boxes.....	5 75
Adams & Co., for matting, etc..	13 26
William E. Livingston, for lime	1 10
Mullin & Winslow, for fertilizer	1 80
D. W. Horne & Son, for coal....	25 13
E. Sheppard & Son, for plants and shrubs.....	168 39
H. W. Tarbell, for trees.....	262 00
R. Wilson Dix, for loam.....	248 25
E. F. & F. D. Edmands, for sod	18 00
E. D. & T. S. Edmands, for sod	435 05
W. H. Fuller, for loam.....	57 50
Sven Ohlson, for land and manure	64 00
J. C. Pihl, for horse.....	65 00
Henry F. Whiting, for leather...	2 24
Butterfield & Co., for printing...	5 75
Morning Mail Corp., for printing	22 15
Daily News Job Print, for blank book	6 25
Thomas H. Lawler, for blank book and stationery.....	9 17
J. H. Abbott, for labor.....	25 90
Charles O. Corliss, for teaming..	197 51
George B. Fuller, for teaming...	564 03
<i>Amount carried forward</i>	\$9,319 23

CITY CEMETERIES.

77

Amount brought forward..... \$9,319 23

Paid for SUNDRIES :

To Edward Harrington, for team-	
ing	15 00
Daniel F. Lyons, for teaming....	2 00

Total expenditure for the year 1893..	\$9,336 23
Balance undrawn Dec. 31, 1893.....	1,753 24
	\$11,089 47

RESERVED FUND.

Balance undrawn Jan. 1, 1893.....	\$4,097 09	
	\$4,097 09	\$4,097 09

RECEIPTS.

From Appropriation for Water Works discount on bills.....	\$ 21 91	
Commonwealth of Massachusetts, for burial of Indigent Soldiers and Sailors.....	241 25	
Commonwealth of Massachusetts, for rent of armory..	1,700 00	
County of Middlesex, for rent of Police Court Room (3 years).....	2,250 00	
Thomas O. Allen, for milk licenses and registers.....	107 00	
N. E. Annis, for fees as Sealer of Weights and Measures...	28 63	
J. R. Fulton, for fees as Sealer of Weights and Measures,	243 00	
Austin K. Chadwick, for liquor licenses.....	115,663 00	
Austin K. Chadwick, for summons, warrants, advertising, etc.....	2,139 13	
David Chase, for old stamps..	3 00	
M. J. Dowd, city clerk, for office fees.....	2,934 94	
<i>Amounts carried forward.....</i>	<i>\$125,331 86</i>	<i>\$4,097 09</i>

RESERVED FUND.

79

Amounts brought forward..... \$125,331 86 \$ 4,097 09

From R. J. Noonan, fees for measuring and weighing..... 316 54
 Quimby & Co., for analyses of water 2 00
 Carleton & Hovey, for rent of store 1,200 00
 J. Bowers & Son, for rent of store 75 00
 Trustees under will of Josiah B. French, for redemption of property 27 56
 Campbell & Hanscom, cash returned to treasury 15 10
 Mary E. Dooley, cash returned to treasury..... 50
 Sundry persons for rent of Huntington Hall as follows :

P. A. Brousseau..... 742 50
 Grand Canton Pawtucket..... 45 00
 Lowell Orchestral Club..... 30 00
 Merrimack Division, No. 6, U. R. K P..... 25 00
 George B. Mevis..... 70 00
 Sacred Heart Church..... 150 00
 St. Joseph's Church..... 30 00
 Veteran Firemen's Association 35 00
 Young Men's Christian Association..... 25 00
 Samuel Brams, for license as hawker..... 25 00
 Moses Horlink, for license as hawker..... 25 00
 Jacob Kaplin, for license as hawker..... 25 00
 Jacob Rothschild, for license as hawker..... 25 00

128,221 06

\$132,318 15

EXPENDITURES.

Paid MEASURER OF WOOD
AND BARK AND SUPER-
INTENDENT OF CITY
SCALES :

To Richard J. Noonan, salary.....	\$ 800 00
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\$800 00

Paid for services of CLERKS,
JANITORS, ETC., as follows:

STATE AID OFFICE.

To Hubert M. Potter.....	\$1,014 00
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CITY CLERK'S OFFICE.

William P. McCarthy.....	1,196 46
Belle C. Hill.....	624 00
Walter V. Hickey.....	30 00
W. F. Leahey.....	30 00
Joseph A. Malone.....	26 25
Matthew H. Gilroy.....	26 25
John P. Farley.....	26 25
J. F. Crowley.....	30 00

CITY AUDITOR'S OFFICE.

Thomas P. Sullivan.....	1,004 80
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CITY TREASURER'S OFFICE.

Andrew G. Stiles	1,096 63
Joseph Farrell	697 81
Ralph W. Foote	520 00
Emma B. Colby.....	45 00
Winnifred M. Kneeland.....	384 00

Amounts carried forward.....	\$6,751 45
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\$800 00

RESERVED FUND.

81

Amounts brought forward..... \$6,751 45 \$800 00

Paid for services of CLERKS,
JANITORS, ETC., as follows:

ASSESSORS' OFFICE.

To Stephen J. Kirby.....	1,595 28
William J. Reardon.....	1,196 46
John F. Burrill.....	467 50
Charles H. Cosgrove.....	186 25
John J. Costello.....	75 00
Henry H. Carroll.....	63 75
John J. Devine.....	507 08
James T. Dunphy.....	272 50
Frank B. Hawes.....	15 00
James J. Kerwin.....	270 00
William J. Leonard.....	451 25
Joseph A. Malone.....	75 00
James S. O'Sullivan.....	101 25
Eugeue W. Sicard.....	58 75

REGISTRARS' OFFICE.

William A. Arnold.....	69 25
James T. Dunphy.....	81 75
John P. Farley.....	276 75
Matthew H. Gilroy.....	161 75
Albert Hammill.....	71 75
Joseph A. Malone.....	23 75
James S. O'Sullivan.....	53 00

CITY HALL.

James Crowley, janitor.....	910 00
Edward Lerner, engineer.....	210 00
Louis Richards.....	125 77
Warren N. Roberts.....	60 00
John R. Lowell.....	105 00
John Donohoe.....	417 75
William McGuirk.....	110 25
Richard Sullivan.....	37 50
Mrs. Conley.....	22 00

Amounts carried forward..... \$14,822 79 \$800 00

<i>Amounts brought forward.....</i>	\$14,822 79	\$800 00
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Paid for Services of CLERKS,
JANITORS, ETC., as follows :

To Bridget Donnelly.....	99 00	
Mary Farrell.....	6 00	
Maria Grace.....	2 00	
Ellen Giblin.....	8 00	
Mrs. Kelly.....	6 00	
Mary Leary.....	99 00	
Kate Malony.....	50	
Sarah McDermott.....	533 30	
Julia Ring.....	261 00	
Kate Sullivan.....	139 50	
Mary Sullivan.....	22 00	
		15,999 09

Paid for FUEL :

To Appropriation for Paupers, for wood	\$ 5 50	
Edward Cawley, for coal.....	488 95	
William E. Livingston, for coal..	4,786 92	
		5,281 37

Paid on account of TAX COL-
LECTIONS :

To Fred N. Edgell, for serving war- rants.....	\$ 251 50	
August Guillett, for serving war- rants.....	446 00	
Simon B. Harris, for serving war- rants.....	10 00	
Harrison W. Streeter, for serving warrants	21 50	
Bernard H. Flood, costs on tax paid twice.....	73	
Zachari Gagnon, costs on taxes paid twice.....	1 75	
Charles W. Kittredge, costs on tax paid twice.....	23	
<i>Amounts carried forward.....</i>	\$731 71	\$22,080 46

RESERVED FUND.

83

<i>Amounts brought forward.....</i>	\$731 71	\$22,080 46
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Paid on account of TAX COLLECTIONS:

To Lowell Five Cent Savings Bank, for excess paid on property tax of John and Eliza Cusack.	259 88	
Citizen Newspaper Co., for printing and advertising....	139 00	
James Ferris, for services posting notices	6 00	
		1,136 59

Paid for DAMAGES, COSTS,
ETC.:

To Appropriation for Police, for services of Officer Michael E. McDonald	\$1,095 00	
John J. Hogan, for expenses in sundry cases.....	406 32	
Alvah S. Baker, for serving notices.....	5 30	
George F. Stiles, for serving no- tices	4 35	
Charles H. Ricker, for profes- sional services.....	15 00	
Sadie T. Brownlee, on execution.	250 00	
Mary Conners, on execution.....	473 44	
Sven Ohlson, on execution.....	1,800 00	
—— Tighe, on execution.....	475 00	
Mary Manning, for personal in- juries.....	100 00	
Belle P. Miller, for personal in- juries.....	100 00	
Catharine O'Neil, for personal in- juries.....	100 00	
Nellie Rourke, for personal in- juries.....	100 00	
Bridget Sullivan, for personal in- juries.....	100 00	
<i>Amounts carried forward.....</i>	\$5,024 41	\$23,217 05

<i>Amounts brought forward.....</i>	\$5,024 41	\$23,217 05
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Paid for DAMAGES, COSTS,
ETC :

To C. H. Hanson & Co., for injury to horse.....	25 00
Boston Book Co., book.....	15 00
George Bowers, for travelling ex- penses, etc.....	34 10
N. E. Telephone and Telegraph Co., for service.....	25 55
Isaac I. Doane, for typewriting, etc.....	14 90
F. E. Rollins, for typewriting, etc.....	277 14
A. H. Sanborn & Co., for photo- graphs.....	4 00

Sundry persons, for services as
witnesses as follows :

Burnham R. Benner.....	55 00
S. D. Butterworth.....	87 50
Phillip Conners.....	50 00
William J. Coughlin.....	15 00
E. B. Conant.....	75 00
Patrick Conlon.....	50 00
Thomas H. Connell.....	75 00
Edward Cawley.....	25 00
Charles T. Fish.....	75 00
Henry Farrell.....	25 00
Simon B. Harris.....	25 00
Leonard Huntress.....	55 00
J. C. Irish.....	25 00
L. F. Kittredge.....	25 00
G. A. Leahey.....	25 00
David Lane.....	25 00
George A. Murphy.....	25 00
James Marren.....	25 00
John E. Maguire.....	50 00
James B. O'Connor.....	55 00
P. O'Hearn.....	35 00
George F. Rice and George E. Evans.....	5 00

<i>Amounts carried forward.....</i>	\$6,327 60	\$23,217 05
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RESERVED FUND.

85

Amounts brought forward..... \$6,327 60 \$23,217 05

Paid for DAMAGES, COSTS,
ETC.:

To Sheppard, Russell & Co.....	75 00	
O. A. Simpson.....	25 00	
Albert G. Swan.....	25 00	
H. H. Wilder.....	15 00	
W. H. Ward.....	50 00	
Sundry persons, fire inquest.....	17 40	
		6,535 00

Paid for COSTS, ETC, IN COR-
PORATION TAX CASES:

To J. E. Conant, for services.....	\$ 150 00	
F. T. Greenhalge, for services...	700 00	
F. E. Rollins, for one-half cost five copies arguments Tre- mont & Suffolk Mills vs. City	113 78	
James A. Keyes, carriage hire...	2 00	
		965 78

Paid for SUNDRIES AT HUNT-
INGTON HALL:

To Pierre A. Brousseau, for services as janitor.....	\$ 770 00	
George B. Mevis, for services as janitor	140 00	
Sundry persons, for labor.....	2,424 30	
Boston & Maine Railroad, for ground rent.....	475 00	
Appropriation for Police, for services of officers.....	209 01	
Appropriation for Public Build- ings, for labor and material.	378 91	
Appropriation for Water Works, for water.....	70 00	
Howe Lumber Co., for lumber...	3 61	
<i>Amounts carried forward</i>	\$4,470 83	\$30,717 83

Amounts brought forward..... \$4,470 83 \$30,717 83

Paid for SUNDRIES AT HUNTINGTON HALL:

To H. R. Barker, Mfg. Co., for labor,	1 60	
Derby & Morse, for burners and labor.....	6 40	
Eastern Electric Light and Storage Battery Co., for repairing lighting machine.....	12 90	
Farrell & Conaton, for pipe, fittings and labor.....	177 54	
Thompson Hardware Co., for hardware, tools, etc.....	28 88	
C. B. Coburn & Co., for pails, brooms, brushes, waste, etc..	20 23	
Dickson Bros., for pitchers.....	1 90	
J. H. Tully & Co., for elatol....	4 50	
Darius Whithed, for soap.....	27 00	
F. U. Cambridge, for stationery..	90	
Harwood Manufacturing Co., for fibre seats.....	7 20	
W. A. Mack & Co, for stove brush.....	1 25	
Lowell Steam Carpet Cleaning Works, for cleaning carpets.	3 30	
Manning & Leighton, for carpet and rug.....	51 50	
J. F. Puffer & Son, for carpet...	108 75	
Daniel Gage, for coal....	7 00	
Mullin & Winslow, for coal and wood.....	14 38	
D B. Smith, for wood.....	2 00	
Daniel F. Lyons, for teaming...	1 00	
Frank Meehan, for teaming.....	9 50	
William Roberts, for teaming...	2 50	
John Whitely, for teaming.....	75	
		4,961 81

Paid on Account of MAPS AND CHARTS of the CITY:

To Sundry Persons, for labor.....	\$3,111 00	
<i>Amounts carried forward</i>	\$3,111 00	\$35,679 64

RESERVED FUND.

87

Amounts brought forward..... \$3,111 00 \$35,679 64

Paid on Account of MAPS AND
CHARTS of the CITY :

To Lowell Institution for Savings, for rent.....	120 00	
Bachelor, Dumas & Co., for blank books.....	14 30	
Sampson, Murdock & Co, for maps.....	12 60	
Taylor Bros., for paper, blank books, etc.....	7 89	
Amasa Pratt & Co., for chestnut hubs.....	10 00	
Charles E. Adams, for crayons ..	50	
Boutwell Bros., for steel.....	2 09	
George L. Cady, for labor.....	30	
O. A. Richardson, for key and repairing tape.....	8 60	
Thompson Hardware Co, for hardware, etc.....	5 55	
Wadsworth, Howland & Co., for steel tape.....	9 60	
A. L. Kittredge, for tracing paper, pens, etc.....	19 83	
W. H. Spalding & Co., for tape case, pencils, painting rods, etc.....	21 13	
J. F. Puffer & Son, for chairs...	5.50	
		3,348 89

Paid for SUNDRIES IN AS-
SESSORS' OFFICE :

To Abel Wheeler, for postage, shears, etc.....	\$ 5 50	
S. J. Kirby, for pens, postage, etc.....	24 50	
George A. Locke, for services of interpreter.....	5 00	
T. S. Buck, for pads and stamps,	10 50	
<i>Amounts carried forward</i>	\$45 50	\$39,028 53

<i>Amounts brought forward.....</i>	\$45 50	\$39,028 53
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Paid for SUNDRIES IN AS-
SESSORS' OFFICE:

To Banker and Tradesman, for sub- scription.....	5 00	
Byron Boyd, for abstracts.....	17 50	
Bachelor, Dumas & Co, for blank books	273 90	
Citizen Newspaper Co., for printing.....	1 50	
Goodyear Gossamer Co, for rub- ber bands.....	6 25	
C. G. Hurlburt, for eyelet press and eyelets.....	5 00	
Thomas H. Lawler, for stationery, etc	5 85	
G. C. Prince & Son, for office sup- plies	72 75	
W. H. H. Wood, for pencil sharpener and ink well.....	2 00	
Thompson Hardware Co., for thermometer, hooks, eyes, cord, etc.....	6 44	
N. E. Tel. and Teleg. Co., for seervice.....	49 60	
		491 29

Paid for SUNDRIES, FOR MILK
INSPECTOR:

To Appropriation for Public Build- ings, for labor and material.	21 34	
Thomas O. Allen, for samples of milk, postage, chemicals, tra- velling expenses, etc.....	44 72	
Citizen Newspaper Co., for print- ing	11 00	
Campbell & Hanscom, for adver- tising	1 50	
Daily News Co., for advertising.	1 50	
Lowell Sun for printing.....	3 75	
<i>Amounts carried forward.....</i>	\$83 81	\$39,519 82

<i>Amounts brought forward.....</i>	\$83 81	\$39,519 82
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Paid for SUNDRIES FOR MILK
INSPECTOR :

To Fred A Chase, for book.....	7 25
Thomas H. Lawler, for ink, pencils, blotting paper, etc..	4 55
G. C. Prince & Son, for station- ery, etc.....	4 00
Irvine Block, for rent.....	183 37
T. Costello & Co., for solder and labor.....	1 85
M. V. B. Libby, for tripods....	2 00
H. H. Wilder & Co., for bacteria incubator, etc.....	62 75
Wilnot, Castle & Co., for copper strainer.....	9 40
O'Donnell & Gilbride, for milk boiler	2 00
A. G. Pollard & Co., for towels..	1 25
Carleton & Hovey, for chemicals, bottles, and corks.....	31 25
Charles E. Carter, for corks and alcohol	2 30
C. B. Coburn & Co., for shellac, tubing, brush, etc.....	4 50
Eimer & Amend, for chemicals..	56 28
Franklin Educational Co., for chemicals	19 44
J. F. Puffer & Son, for refriger- ator, and jugs.....	20 88
Talbot Dyewood & Chemical Co., for chemicals, stopples, tun- nels	1 61
Sturtevant & Galer, for labor and material	1 25
James A. Thompson, for tables..	16 00
Woods, Sherwood & Co., for wire baskets.....	3 00
John Welch, for wardrobe.....	12 00
Alice M. Myers, for typewrit- ing.....	3 15
Cyrus W. Irish, for use of team.....	7 50

<i>Amounts carried forward.....</i>	\$541 39	\$39,519 82
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<i>Amounts brought forward.....</i>	\$541 39	\$39,519 82
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Paid for SUNDRIES FOR MILK
INSPECTOR :

To A Merrill, for teaming.....	7 00	
John Richards, for teaming.....	1 00	
Murphy & Bingham, for carriage hire.....	5 50	
		554 89

Paid for ELECTION EX
PENSES :

To Sundry persons, for services as ward officers.....	4,681 00	
Appropriation for Police, for ser- vices of officers.....	26 13	
Appropriation for Public Build- ings, for labor and material..	640 25	
Appropriation for Water Works, for water.....	30 00	
J. B. Currier, for counting appar- atus.....	159 00	
Bachelor, Dumas & Co., for blank books	14 50	
T. S. Buck, for s amps and pads.	10 01	
C. F. Hatch & Co., for envelopes and boxes....	53 50	
Thomas H. Lawler, for directory, stationery, etc.....	83 10	
Citizen Newspaper Co., for print- ing.....	9 75	
J. W. Bennett & Co., for tarred paper....	36 58	
C. B. Coburn & Co., for candles, waste, etc.....	14 91	
O. E. Averill, for blacksmithing,	15 55	
W. A. Mack & Co., for pipe....	25	
N. J. Wier & Co., for repairing stoves.	31 70	
Merrimac House, for refresh- ments.....	9 50	
<i>Amounts carried forward.....</i>	\$5,815 73	\$40,074 71

RESERVED FUND.

91

Amounts brought forward..... \$5,815 73 \$40,074 71

Paid for ELECTION EXPENSES :

To D. L. Page Co., for refreshments,	59 60	
Richardson's Hotel, for refreshments	93 15	
Albert Hamel, for serving notices,	16 96	
Oswald Lapierre, for serving notices.	30 74	
John A. McQuade, for serving notices.	27 56	
Harrison W. Streeter, for serving notices.	21 12	
J. B. Swift, for serving notices..	45 58	
Hamilton Mfg. Co., for rent of land	6 00	
Lowell Machine Shop, for rent of land	25 00	
J. F. Puffer, for rent of land....	50 00	
Patrick Donohoe, for care of polling booth.....	14 50	
T. M. Bolton, for straps and repairing	3 75	
Alvin Lawrence, for repairing ballot boxes.....	4 00	
John McCaffrey, for carriage hire.....	66 00	
J. F. O'Donnell, for carriage hire,	16 50	
J. H. Sparks, for carriage hire...	2 00	
Timothy Dwyer, for teaming...	10 00	
Daniel J. Kelly, for teaming....	43 50	
T. G. Little, for teaming.....	10 00	
Daniel F. Lyons, for teaming....	45 50	
Daniel McCarthy, for teaming...	75 00	
John Regan, for teaming.....	20 00	
Michael Reynolds, for teaming..	20 00	
William Roberts, for teaming...	27 00	
Samuel Tompkins, for teaming...	10 00	
		6,559 19
<i>Amount carried forward</i>		\$46,633 90

Amount brought forward..... \$46,633 90

Paid for R E-N U M B E R I N G
S T R E E T S :

To John E. Maguire, for labor.....	482 50	
James F. McKissock, for labor...	495 00	
Appropriation for Public Build- ings, for box	2 50	
Bartlett & Dow, for awl, scraper and step ladder.....	1 97	
Boulger & McOsker, for strap...	1 75	
J. J. Berry & Co., for figures, stencils and frame.....	113 13	
Alvin Thompson, for figures.....	735 00	
Thompson Hardware Co., for scale	1 50	
Daily News Job Print, for cards,	3 00	
Lowell Courier Publishing Co., for advertising	2 00	
		1,838 35

Paid on Account of OBSEQUIES
OF GEN. BENJAMIN F.
BUTLER, WHO DIED IN
WASHINGTON, JAN. 11,
AND WHOSE FUNERAL
OCCURRED IN LOWELL,
JAN. 16, 1893 :

To Appropriation for Public Build- ings, for labor.....	\$ 23 13	
Abels & Son, for badges.....	12 00	
William Beals, for draping Hunt- ington Hall.....	600 00	
E. Sheppard & Son, for plants and flowers	25 00	
Howe Lumber Co., for lumber..	6 34	
Charles H. Cutter, for refresh- ments for Police Officers....	15 00	
Merrimac House, for entertain- ment of guests.....	138 00	
D. L. Page Co., for catering for Militia	50 00	
	\$869 47	\$48,472 25
<i>Amounts carried forward</i>		

RESERVED FUND.

93

Amounts brought forward..... \$869 47 \$48,472 25

Paid on Account of OBESQUIES
OF GEN. BENJAMIN F.
BUTLER, WHO DIED IN
WASHINGTON, JAN. 11,
AND WHOSE FUNERAL
OCCURRED IN LOWELL,
JAN. 16, 1893 :

To Campbell & Hanscom, for advertising	1 50	
Citizen Newspaper Co., for advertising	4 00	
Benjamin Lenthier, for advertising	3 00	
Lowell Courier Publishing Co., for advertising	1 50	
Sunday Arena, for advertising...	3 00	
G. C. Prince & Son, for paper...	1 20	
Samuel Kilpartrick, for damage to property	10 50	
Middlesex Mechanics Association, for use of hall.....	18 00	
Murphy & Bingham, for carriage hire.....	120 00	
J. H. Sparks, for carriage hire...	4 00	
		1,036 17

Paid on Account of MEMORIAL
DAY :

To C. E. Austin for music and services of J. A. Baker.....	\$ 13 00	
American Orchestra, for services,	20 00	
G. A. R. Drum, Fife and Bugle Corps, for services.....	20 00	
George W. Harrington, for services	5 00	
A. Mirault, for services of band..	60 00	
Post 42 G. A. R., for services of band	88 00	
<i>Amounts carried forward</i>	\$206 00	\$49,508 42

<i>Amounts brought forward.....</i>	\$206 00	\$49,508 42
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Paid on Account of MEMORIAL
DAY:

To Paige Street Quartette, for services	12 00
W. W. Tuttle, for orator and band.....	85 00
Union Band, for services	80 00
C. S. Goodwin, for repairing flags	5 60
C. H. Kimball, for leggings	10 25
Masten & Wells, for flags.....	8 40
S. M. Patterson, for decorations,	15 00
J F. Puffer, & Son, for use of carpet.....	2 00
John S. Haynes, for flowers.....	25 80
Lowell Cemetery Association, for plants	7 50
Charles L. Marshall, for flowers and plants.....	39 50
Patten & Co., for plants.....	20 00
E. Sheppard & Son, for plants and bouquets.....	49 00
Women's Relief Corps, Post 42, for evergreens.....	26 00
A. J. Boies, for expenses	3 97
Charles Donaghue, for labor....	1 50
James F McCarthy, for labor...	2 00
Daniel Reardon, for labor.....	1 50
D. L. Page Co., for collation....	75 00
Rollins & Son, for trowels.....	1 50
C. Zimmer, for springs.....	1 50
Campbell & Hanscom, for printing and advertising.....	18 10
Lowell Courier Publishing Co., for printing and advertising,	17 75
P. H. Heelon, for carriage hire..	10 00
Keyes & Co., for carriage hire...	10 00
James A. Keyes, for carriage hire.....	10 00
John F. McGovern, for carriage hire.....	5 00
J. F. O'Donnell, for carriage hire,	10 00

<i>Amounts carried forward</i>	<u>\$759 87</u>	<u>\$49,508 42</u>
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RESERVED FUND.

95

<i>Amounts brought forward.....</i>	\$759 87	\$49,508 42
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Paid on Account of MEMORIAL
DAY:

To James O'Hare, for carriage hire.	5 00	
F. E. Stowell, for carriage hire..	10 00	
A. N. Stevens, for carriage hire.	10 00	
A. Merrill, for teaming.....	5 00	
William Roberts, for teaming...	5 00	
		794 87

Paid on account of LABOR DAY:

To Central Labor Union, per resolution.....	\$ 300 00	
		300 00

Paid for CELEBRATION OF
ONE HUNDRED SEVEN-
TEENTH ANNIVERSARY
OF AMERICAN INDEPEN-
DENCE:

To Appropriation for School-houses, for labor and material.....	\$ 20 35	
Arthur Ashworth, for ringing bells	10 00	
Joseph Johnson, for ringing bells,	15 00	
Freeman Miles, for ringing bells.	3 00	
Wm. J. Thomas, for ringing bells,	3 00	
John J. Conners, for Children's entertainment	48 50	
John J. St. George, for Children's entertainment.	48 50	
George Gardner, for use of piano,	6 00	
Patten & Co, for use of plants..	7 50	
Frank R. Rix, for music.....	25 00	
Solon W. Stevens, for oration...	50 00	
Bedford Cornet Band, for ser- vices.	100 00	
East Pepperill Cornet Band for services	100 00	
<i>Amounts carried forward.....</i>	\$436 85	\$50,603 29

<i>Amounts brought forward.....</i>	\$436 85	\$50,603 29
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Paid for CELEBRATION OF
ONE HUNDRED SEVEN-
TEENTH ANNIVERSARY
OF AMERICAN INDEPEN-
DENCE :

To G. A. R. Drum, Fife and Bugle Corps, for services.....	100 00	
Alex. Mirault, for services of band.....	125 00	
St. Patrick's Cadet Band, for services.....	84 00	
Union Band, for services.....	125 00	
T. M. Bolton, for use of equipments.....	22 00	
Estate F. A. Hildreth, for rent of office.....	12 50	
C. H. Hanson & Co., for carriage hire.....	55 00	
Keyes & Co., for carriage hire...	43 00	
A. L. Kittredge, for lettering cards and banner and painting canes.....	18 00	
C. H. Kimball, for services.....	100 00	
J. Merrill & Son, for stationery..	45	
J. F. Puffer & Son, for use of chairs and table.....	1 25	
Clover Club, prizes for parade feature.....	100 00	
Central Labor Union, prize for parade feature.....	200 00	
Turtle Club, prize for parade feature.....	300 00	
O. G. Clough, prize for parade feature.....	25 00	
Fay Bros. & Hosford, prize for parade feature.....	15 00	
C. H. Hanson, prize for parade feature.....	50 00	
T. J. McDonald, prize for parade	35 00	
A. A. Scholz, for parade feature.....	50 00	
<i>Amounts carried forward.....</i>	<u>\$1,898 05</u>	<u>\$50,603 29</u>

RESERVED FUND.

97

<i>Amounts brought forward.....</i>	1,898 05	\$50,603 29
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Paid for CELEBRATION OF
ONE HUNDRED SEVEN-
TEENTH ANNIVERSARY
OF AMERICAN INDEPEN-
DENCE :

To Foster & Brickett, for decorating barges.....	\$20 00	
S. M. Patterson, for decorating City Hall.....	25 00	
J. F. Convery, for labor.....	2 50	
H. H. Tilton & Co., for display of fireworks	800 00	
W. E. Westall, for expenses of Committee on Fireworks....	4 10	
W. U. Telegraph Co., for tele- grams.....	37	
Appropriation for Public Build- ings, for labor and material..	88 33	
Sundry persons, prizes in Athletic Sports.....	83 00	
J. J. Cluin, for medals.....	8 00	
J. J. Gallagher, for rent of office.	5 00	
Thomas H. Lawler, for blank book.....	50	
Keyes & Co., for carriage hire...	7 00	
J. F. O'Donnell, for carriage hire,	10 00	
Samuel M. Chase, for printing...	4 75	
Campbell & Hanscom, for print- ing and advertising.....	41 37	
Citizen Newspaper Co., for print- ing and advertising.....	74 25	
Daily News Co., for advertising..	21 14	
Lepine & Co., for printing and ad- vertising	19 25	
Le National, for printing and ad- vertising....	7 25	
Lowell Sun, for advertising.....	23 63	
Lowell Courier Publishing Co., for advertising.....	18 37	
Morning Mail Corporation, for advertising.....	26 31	
<i>Amounts carried forward.....</i>	<u>\$3,188 17</u>	<u>\$50,603 29</u>

Amounts brought forward..... \$3,188 17 \$50,603 29

Paid for CELEBRATION OF
ONE HUNDRED SEVEN-
TEENTH ANNIVERSARY
OF AMERICAN INDEPEN-
DENCE :

To Vox Populi Press, for advertising,	32 75	
A. V. Partridge, for posting.....	3 00	
Bachelor, Dumas & Co., for badges.....	11 00	
C. H. Philbrick, for lighting band stand.....	2 00	
Lowell Electric Light Corpora- tion, for lighting.....	2 50	
Lowell Gas Light Co, for light- ing.....	66	
Appropriation for Roads and Bridges, for hay, grain and labor.....	33 00	
Thompson Hardware Co., for tape measure.....	1 00	
J. L. Severance, for stamp and pad.....	2 30	
John Cross, for use of tent.....	3 50	
Timothy Dwyer, for teaming....	2 50	
D. J. Kelly, for teaming.....	2 50	
William Roberts, for teaming...	12 50	
C. M. Sherman, for teaming.....	3 00	
		3,300 38

Paid for DEDICATION OF
MEMORIAL BUILDING :

To Appropriation for Roads and Bridges, for labor and ma- terial.....	\$69 75	
Appropriation for Public Build- ings, for labor.....	82 76	
Burnham & Davis, for lumber...	119 20	
S. M. Patterson, for decorations.	7 00	
Patten & Co., for flowers.....	10 00	
<i>Amounts carried forward</i>	\$288 71	\$53,903 67

RESERVED FUND.

99

<i>Amounts brought forward.....</i>	\$288 71	\$53,903 67
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Paid for DEDICATION OF
MEMORIAL BUILDING:

To Abels & Son, for badges.....	24 70	
Samuel M. Chase, for badges....	3 50	
C. H. Kimball, for leggings and gauntlets.....	21 00	
J. F. Puffer & Son, for use of carpets and furniture.....	10 80	
C. A. R. Dimon, for sundry ex- penses.....	21 29	
American Quartette, for services,	28 00	
G. A. R. Drum, Fife and Bugle Corps, for services.....	42 00	
Lowell Brass Band, for services...	63 00	
A. Mirault, for services of band..	60 00	
F. E. Shaw, for entertainment of guests.....	34 60	
Merrimack House, for entertain- ment of guests.....	279 75	
Campbell & Hanscom, for print- ing and advertising.....	24 10	
Citizen Newspaper Co., for ad- vertising.....	4 50	
Daily News Co., for advertising .	4 38	
Lowell Daily Sun, for advertising,	3 75	
Morning Mail Corporation, for printing and advertising....	10 37	
Vox Populi Press, for printing and advertising.....	30 50	
Murphy & Bingham, for carriage hire.....	72 00	
Daniel J. Kelly, for teaming.....	13 00	
James Leach, for teaming.....	2 00	
Daniel F. Lyons, for teaming....	7 00	
John Whitely, for teaming.....	7 50	
		\$1,056 45
<i>Amount carried forward.....</i>		\$54,960 12

Amount brought forward.....

\$54,960 12

Paid for DEDICATION OF
CITY HALL, OCT. 14, 1893:

To Burnham & Davis, for lumber...	\$ 16 49
S. M. Patterson, for decorations.	10 00
Patten & Co., for flowers.....	11 00
Abels & Son, for badges.....	27 90
C I. Taylor, for batons.....	13 75
James H. Cahill, for postage....	18 00
John J. Pickman, for postage....	15 00
American Orchestra, for services,	60 00
Salem Cadet Band, for services..	183 00
Merrimack House for entertain- ment of guests.....	89 85
D. L. Page Co., for entertainment of guests.....	9 00
F. E. Shaw, for entertainment of Salem Cadet Band.....	57 50
Campbell & Hanscom, for print- ing and advertising.....	6 75
Citizen Newspaper Co., for print- ing and advertising.....	90 75
Lowell Courier Publishing Co., for printing and advertising,	130 75
Lowell Daily Sun, for advertising,	75
Morning Mail Corporation, for advertising	2 50
A. L. Kittredge, for painting and lettering.....	2 50
Lowell Electric Light Corpora- tion, for lighting.....	10 00
J. F. Puffer & Son, for use of chairs.....	1 25
F. E. Rollins, for typewriting...	23 18
C. H. Hanson & Co., for carriage hire.....	5 00
Murphy & Bingham, for carriage hire.....	20 00
J. H. Sparks, for carriage hire...	26 50
Daniel F. Lyons, for teaming...	50
Stickney Transfer Co., for team- ing	12 00

843 92
Amount carried forward.....

\$55,804 04

RESERVED FUND.

101

Amount brought forward..... \$55,804 04

Paid for BAND CONCERTS :

To Appropriation for Public Buildings, for labor and material.	\$ 22 50	
Lowell Electric Light Corporation, for lighting.....	2 50	
C. H. Philbrick, for lighting....	6 00	
Birtwell's Military Band.....	40 00	
G. A. R. Drum, Fife and Bugle Corps.....	80 00	
Lowell Brass Band.....	40 00	
Alex. Mirault.....	80 00	
St. Patrick's Cadet Band.....	40 00	
Union Brass Band.....	80 00	
		391 00

Paid for SUNDRIES :

To Appropriation for Roads and Bridges, for teaming, engineering, etc.....	\$ 298 55	
Appropriation for Watering Streets, for assessments...	57 94	
Appropriation for Police, for services of officers.....	137 50	
Appropriation for Public Buildings, for labor and material.	166 69	
Appropriation for Water Works, for water at drinking fountains.....	119 16	
New England Telephone and Telegraph Company, for service	217 03	
Western Union Telegraph Co., for service.....	2 01	
Mark Holmes, Jr., & Son, for lumber.....	3 00	
Howe Lumber Co., for lumber..	81 58	
Bartlett & Dow, for hardware, typewriter, ribbon, etc.....	68 19	
J. C Bennett, for hardware.....	10	
<i>Amounts carried forward</i>	\$1,151 75	\$56,195 04

<i>Amounts brought forward.....</i>	\$1,151 75	\$56,195 04
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Paid for SUNDRIES :

To Thompson Hardware Co., for hardware and tools.....	44 43	
O E. Averill, for blacksmithing, H. R. Barker Manufacturing Co., for globes, pipe, fittings and labor.....	3 15	
Derby & Morse, for speaking tubes and repairing bells....	35 18	
Eastern Electric Light and Stor- age Battery Co., for tubes and repairing bells.....	34 00	
Farrell & Conaton, for burners, globes and labor.....	18 23	
Alvin Lawrence, for repairing clocks	5 25	
James T. Murray, for repairing clocks	3 50	
W. A. Mack & Co., for tin boxes, Rice & Co., for wire cloth.....	4 75	
Jerry Ryan, for bill files.....	9 30	
Irving W. Wheeler & Co, for en- signs	16 25	
H. H. Wilder & Co., for tin boxes, padlocks, etc.....	15 00	
C. Zimmer, for keys and repairing lock	2 00	
Carleton & Hovey, for vase, soap, matches, etc.....	57 00	
C. B. Coburn & Co., for baskets, oil, waste, etc.....	22 45	
Eagle Chemical Co., for washing powder.....	6 55	
India Alkali Works, for washing material	63 38	
P. M. Jefferson & Co., for soap..	48 00	
James F. Kelty, for goblet, mug and pails.....	23 01	
R. J. Lang, for camphor balls...	13 50	
W. A. Morrison, for oil.....	2 30	
P. P. Stiles & Co., for brooms, brushes, etc.....	1 25	
	50 65	
	21 73	
<i>Amounts carried forward.....</i>	\$1,652 61	\$56,195 04

<i>Amounts brought forward.....</i>	\$1,652 61	\$56,195 04
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Paid for SUNDRIES :

To Darius Whithed, for soap.....	9 00
J. W. Cassidy, for towels,.....	11 80
John Cross, for rope and repair-	
ing flags.....	9 25
Josiah Gates & Sons, for lacing..	48
A. N. Harmon, for frames, cord	
and labor.....	3 75
L. W. Hawkes & Co., for web-	
bing and tacks.....	1 60
A. L. Kittredge, for roller, labor,	
etc.....	26 00
A. G. Pollard & Co., for cheese	
cloth	80
Harry Raynes, for gavel.....	19 00
Spencer & Co., for cards.....	30
John Welch, for furniture and	
repairing.....	104 50
George F. Allen, for leather bag.	3 75
Bachelor, Dumas & Co., for blank	
books, binding, paper, etc..	621 49
J. E. Buerk, for dials and post-	
age	3 60
Buckland Printing Co., for boxes	
and printing.....	3 00
F. U. Cambridge, for frame and	
cord	3 80
F. P. Coggeshall, for seals.....	4 00
Dye's Government Counterfeit	
Detector, for subscription...	4 00
J. M. Fellows, for stamps.....	8 35
Goodyear Gossamer Co., for comb,	
rubber bands, etc.....	22 50
F. Blanche Hard, for type cleaner,	1 50
C. F. Hatch & Co., for boxes....	12 00
J. J. Jones, for stamps.....	7 75
Thomas H. Lawler, for blank	
books, stationery, etc.....	290 56
Little, Brown & Co., for blank	
books	6 00
Lyon Platinum Pen Co., for pens,	18 00
J. Merrill & Son, for ink.....	75

<i>Amounts carried forward.....</i>	\$2,850 14	\$56,195 04
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<i>Amounts brought forward.....</i>	\$2,850 14	\$56,195 04
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Paid for SUNDRIES :

To G. C. Prince & Son, for stationery, subscriptions, etc.....	53 97	
F. C. Rollins, for typewriting, oil, ribbon, etc.....	21 09	
Sampson, Murdock & Co., for directories	67 00	
J. L. Severance, for stamps, ink and pads.....	12 78	
C. C. Skilton, for check stamp...	30 00	
Taylor Bros., for envelopes, blank books, pens, ink, etc.....	125 67	
Campbell & Hanscom, for printing	2 00	
Citizen Newspaper Co., for subscriptions	10 00	
Daily News Job Print, for postals, envelopes, etc.....	30 00	
Lowell Daily Courier, for subscriptions.....	12 00	
Morning Mail Corporation, for subscriptions	12 00	
W. P. Burbank, for stamps and envelopes.....	120 00	
Lowell Post Office, for stamps...	530 00	
James H. Cahill, for postage, etc.,	28 91	
Austin K. Chadwick, for office expenses.....	51 40	
David Chase, for office expenses,	17 95	
Michael J. Dowd, for office expenses.....	64 84	
H. M. Potter, for travelling expenses, postage, etc.....	37 90	
Fred Sanborn, for services as expert accountant.....	100 00	
W. E. Westall, for expenses of Legislative Committee.....	8 32	
A. Y. Caswell, for mileage tickets.....	80 00	
Mrs P. L. Gregoire, for crepe bows.....	6 50	
R. A. Griffiths, for bouquets....	9 00	
<i>Amounts carried forward.....</i>	\$4,281 47	\$56,195 04

<i>Amounts brought forward.....</i>	\$4,281 47	\$56,195 04
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Paid for SUNDRIES :

To J. J. McManniman, for bouquet.	4 00
Patten & Co., for flowers.....	35 00
S. M. Patterson, for decorations.	11 05
Charles Howard, for expenses of License and Police Commit- tees.....	101 10
D. L. Page Co., for refreshments,	1 30
F. E. Putnam, for refreshments..	6 00
Richardson's Hotel, for refresh- ments.....	50 05
Middlesex Registry of Deeds, for recording.....	17 85
J. P. Thompson, for recording..	3 25
Appleton National Bank, for rent of safety deposit box.....	50 00
Railroad National Bank, for rent of safety deposit box.....	25 00
Commonwealth of Massachusetts, on account of Liquor License fees.....	28,928 25
Tremont and Suffolk Mills, for bill paid twice for sealing scales.....	15 35
George Hedrick, for care of clock in High Street Church.....	50 00
Nellie Giblin, for labor.....	2 25

Sundry persons for care of ward
rooms, as follows :

James Boyle.....	4 00
Thomas H. Conley.....	4 00
Patrick Donohoe.....	1 00
Peter Garrity.....	3 00
Thomas Hannafin.....	5 00
John Manchester.....	11 00
John F. Merrill.....	17 00
Frank O'Reilly.....	21 00
Daniel Reynolds.....	1 00
Dennis W. Sheehan.....	6 50

<i>Amounts carried forward.....</i>	\$33,655 42	\$56,195 04
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<i>Amounts brought forward.....</i>	\$33,655 42	\$56,195 04
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Paid for SUNDRIES :

To J. F. Sparks.....	4 50
George Teel.....	14 00
Michael Walsh.....	26 00
James Wright.....	2 00

Sundry persons, for services as
census enumerators, as fol-
lows :

James W. Barry.....	33 20
Jacob Beausoleil, interpreter....	5 00
Joseph A. Bourbonniere.....	26 30
Frank Danahy.....	18 10
John J. Danahy.....	50 30
Louis Marchand, interpreter....	11 65
John E. Maguire.....	50 40
James H. Smith.....	20 90

The following persons, for report-
ing births :

Solon Bartlett.....	14 00
H. R. Brissett.....	3 75
Deborah Chalmers.....	2 25
Mary Chalmers.....	25
N. C. Columbe.....	2 75
J. J. Colton.....	4 00
Cornelius A. Daly.....	22 00
Mary Dooley.....	3 75
W. G. Eaton.....	2 50
James B. Field.....	7 50
J. A. Gagnon.....	9 00
A. A. Gellineau.....	25 50
A. E. Gillard.....	2 75
E. Gervais.....	17 50
H. F. Hall.....	75
T. F. Harrington.....	9 50
Agnes Hayes.....	1 50
Guy Holbrook.....	11 00

<i>Amounts carried forward.....</i>	\$34,058 02	\$56,195 04
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Amounts brought forward..... \$34,058 02 \$56,195 04

Paid for SUNDRIES :

The following persons for reporting births :

To W. B. Jackson.....	3 25
W. A. Johnson.....	2 75
Mary E. Kenney,.....	4 50
William H. Lathrop,.....	15 75
A. W. Lavigne,.....	18 25
William P. Lawler,.....	33 00
G. A. Leahey,.....	1 25
Catherine Loftus,.....	5 50
Sarah Mason,.....	50
Mary McAnaney,.....	1 00
T. G. McGannon,.....	4 75
A. & R. Mignault,.....	41 25
Mary Noel,.....	67 75
Mrs. Nudd,.....	1 50
James B. O'Connor,.....	3 50
D. N. Patterson,.....	4 75
M. Richards,.....	75
C. H. Ricker,.....	2 50
L. E. Schiller,.....	6 75
Catherine Shanley	27 25
James F. Sullivan.....	25 75
C. W. Taylor.....	1 75
E. W. Trueworthy	5 50

J. W. Brooks, for burial of Alex. McLane.....	35 00
J. B. Currier, for burial of Joseph Bixby	35 00
Peter Davey, for burial of John Muller, and Thomas McCormick	70 00
J. H. McDermott, for burial of Peter Campbell and Thomas O'Brien	70 00
James F. O'Donnell, for burial of John Grant, Dennis Morrissey and Charles O'Sullivan.....	105 00

Amounts carried forward..... \$34,652 52 \$56,195 04

<i>Amounts brought forward.....</i>	\$34,652 52	\$56,195 04
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Paid for SUNDRIES :

To John A. Weinbeck, for burial of John A. Cates and Wm. A. Fifield	70 00
Charles M. Young, for burial of J. Morton Gale, Gilbert P. Johnson and George H. Nickles.....	105 00

The following persons, for carriage hire :

J. A. Chase.....	1 50
C. F. Donohoe.....	5 00
C. H. Hanson & Co.....	10 00
P. H. Heelon.....	30 00
Keyes & Co.....	51 50
John M. Caffery.....	2 50
Murphy & Bingham.....	16 00
J. E. O'Donnell.....	10 00
J. H. Sparks.....	189 50
F. E. Stowell.....	87 50

The following persons, for teaming :

D. J. Kelly.....	2 50
J. Leach.....	28 30
T. G. Little.....	3 75
Daniel F. Lyons.....	2 30
Daniel McCarthy.....	7 50
Frank Meehan.....	1 00
Alphonso Merrill.....	6 57
John Regan.....	3 00
Stickney Transfer Co.....	2 95
Samuel Tompkins.....	50
American Express Co., for transportation	12 05
Lovejoy-Paul Express Co., for transportation.....	2 70

<i>Amounts carried forward.....</i>	<u>\$35,304 14</u>	<u>\$56,195 04</u>
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RESERVED FUND.

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<i>Amounts brought forward</i>	\$35,304 14	\$56,195 04
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Paid for SUNDRIES :

To Boston & Maine Railroad, Western Division, for transportation.....	27	
		35,304 41
Total expenditure for the year 1893..		\$91,499 45

TRANSFERS.

To Roads and Bridges.....	\$5,000 00	
Pawtucket Boulevard.....	30 15	
City Cemeteries.....	1,550 00	
New Buildings at City Farm....	2,700 00	
Commons.....	2,500 00	
Printing and Advertising.....	2,664 99	
Public Buildings (Rifle Range).	400 00	
Health.....	12,000 00	
Salaries.....	139 32	
		26,984 46
		\$118,483 91
Balance undrawn, Dec. 31, 1893.....		13,834 24
		\$132,318 15

PAUPERS.

Balance undrawn Jan. 1, 1893.....	\$ 2,191 51	
Appropriation.....	60,000 00	
		\$62,191 51

RECEIPTS.

Received into the Treasury on Account of PAUPERS:

From Appropriation for Schools, for wood.....	\$ 704 00	
Appropriation for Roads and Bridges, for wood.....	54 25	
Reserved Fund, for wood.....	5 50	
Appropriation for Police, for wood, hay and carrots....	97 27	
Appropriation for Fire Department for wood.....	65 01	
Appropriation for Lighting, for coal.....	17 50	
Appropriation for Public Buildings, for labor, stone, sand and teaming	397 66	
Appropriation for Water Works, for discount on bills.....	143 16	
<i>Amounts carried forward.....</i>	\$1,484 35	\$62,191 51

<i>Amounts brought forward.....</i>	\$1,484 35	\$62,191 51
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Received into the Treasury on Account of PAUPERS :

From Appropriation for Driven Well Plant, for gravel....	263 00	
Commonwealth, for support of paupers (U. S. cases).....	1,421 34	
Commonwealth, for support of State paupers.....	2,466 69	
Commonwealth, for temporary support of State paupers..	711 95	
Commonwealth, for burial of State paupers	240 00	
Commonwealth, for burial of paupers	115 00	
County of Middlesex, for board Theresa Ward and child and Rose McAndrew and child.....	86 00	
County of Middlesex, for shoveling snow.....	8 32	
City of Boston, for aid rendered Henry and Mary Buse, Patrick Dwyer and family, Wm. R. Edwards and family, Wm. H. Johnson, Thomas J. McNulty, John Miner, Katie Barry, Sarah E. Berry, M ^{rs} . John Mansfield.....	199 35	
City of Brockton, for aid rendered Daniel Leach.....	86	
City of Chelsea, for board and clothing of George H. Burns, Thomas E. Downey, James Post and Louis Rowe.....	220 02	
City of Fall River, for aid rendered John E. Fisk.....	63 57	
City of Fitchburg, for aid rendered R. Welch.....	22 29	
City of Haverhill, for aid rendered Kate Cunniff.....	9 21	
<i>Amounts carried forward.....</i>	\$7,311 95	\$62,191 51

<i>Amounts brought forward.....</i>	\$7,311 95	\$62,191 51
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Received into the Treasury on Account of PAUPERS :

From City of Lawrence, for aid rendered Lizzie Carney, Bertha Davis, Ellen Gleason, Emma Kenney, Mrs. Benjamin Leblanc, alias White, John Carroll, James F. Crowley and family, Charles Davis and Hugh Kane and family.....	160 66
City of Lynn, for aid rendered James Hanley.....	2 00
City of Malden, for board and clothing of Fred and Maggie McArthur.....	33 54
City of Newton, for aid rendered Mary Doherty.....	21 30
City of Newburyport, for aid rendered Martin H. Cogger and family.....	30 90
City of Salem, for aid rendered Bridget O'Hara.....	3 50
City of Somerville, for board and clothing of Patrick Hennessy, Archibald Johnson, Patrick Kelly, Francis O'Hare and Bernard Scannell.....	265 05
City of Springfield, for aid rendered children of Augustus Waldron.....	12 50
City of Waltham, for aid rendered children of Edward Vallyelly and board of Michael Fahey at Reform School.....	221 56
City of Worcester, for aid rendered Mary E. Hogan, alias Parker, and Joseph A. Long, and use of ambulance.....	7 15

<i>Amounts carried forward.....</i>	<u>\$8,070 11</u>	<u>\$62,191 51</u>
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<i>Amounts brought forward.....</i>	\$8,070 11	\$62,191 51
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Received into the Treasury on Account of PAUPERS :

From Town of Acton, for aid rendered Lilian and Maud Kingsley and Isaac Bryant,	163 82	
Town of Adams, for aid rendered James Murphy.....	13 60	
Town of Andover, for aid rendered Kate Golden.....	30 71	
Town of Arlington, for board and clothing of Michael and Jerry Coursey at Reform School....	99 30	
Town of Barre, for aid rendered Michael Murphy....	61 43	
Town of Billerica, for aid rendered Emily Riley and children, Mrs. John Bohonon and Silas Cowdry..	61 70	
Town of Bridgewater, for board of Michael Frawley.....	65 72	
Town of Chelmsford, for board of Ed. Nelson.....	26 29	
Town of Clinton, for aid rendered Mrs. John O'Toole, Eliza Smith, Catharine Taylor and John Dugan..	101 81	
Town of Cohasset, for aid rendered Lucinda Harris....	17 14	
Town of Hyde Park, for board of Fanny Hanson at St. John's Hospital.....	25 71	
Town of Lancaster, for aid rendered Angelina Cook.....	78 00	
Town of Leominster, for aid rendered and burial of Kate Conlan Brown.....	12 00	
Town of Lynnfield, for aid rendered George A. Abbott and family.....	75 00	
Town of Methuen, for aid rendered Robert McFarlin...	5 00	
<i>Amounts carried forward.....</i>	\$8,907 34	\$62,191 51

<i>Amounts brought forward.....</i>	\$8,907 34	\$62,191 51
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Received into the Treasury on Account of PAUPERS:

From Town of Natick, for aid rendered Ella Witherell.....	63 50	
Town of North Adams, for aid rendered Jane Bracey....	3 43	
Town of Plymouth, for aid rendered Richard King...	3 86	
Town of Randolph, for aid rendered Annie R. Bunberry	30 95	
Town of Saugus, for board of Richard Green at St. John's Hospital.....	26 43	
Town of Shelburne, for medical aid rendered James McLaughlin.	2 25	
Town of Shirley, for aid rendered Robert Tagin.....	3 00	
Town of Southbridge, for aid rendered Emma Duteau..	15 14	
Town of Stowe, for aid rendered Mary A. Fogg.....	53 40	
Town of Stoughton, for aid rendered Mrs. John H. Clark and family.....	23 00	
Town of Tewksbury, for aid rendered Mrs. Anthony McDonald, Margaret McCoy, Joseph McCoy and family, and use of ambulance	48 08	
Town of Ware, for aid rendered Samuel Cloutier....	17 14	
Town of Westford, for aid rendered Margaret Casey, Mary Larkin, Margaret Whitcomb and John William Driscoll.....	46 64	
Town of Weymouth, for aid rendered Mary Handley..	14 93	
<i>Amounts carried forward.....</i>	\$9,264 09	\$62,191 51

<i>Amounts brought forward.....</i>	\$9,264 09	\$62,191 51
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Received into the Treasury on account of PAUPERS :

William H. Anderson, Guardian, for support of A. G. Jones at almshouse.....	3 21
Wilder Bennett, for support of Caroline Bennett at almshouse.....	169 46
F. A. Buttrick, Guardian, for support of David Moore at almshouse....	130 36
James Cowell, for support of William Cowell, at almshouse	97 50
Estate Abigail Desmond, for support of Abigail Desmond, alias Mansfield, at almshouse	445 00
Mrs. F. E. Dunlap, for support of Lusylvia T. Bartlett at Worcester Lunatic Hospital	169 46
Horace Ela, Agent, for support of Michael Fallon at almshouse	11 61
John A. Fletcher, for support of Helen Fletcher at almshouse	182 50
Thomas Gray, for support of Ellen Gray at almshouse..	41 07
B. C. Hill, for support at Danvers Lunatic Hospital,	47 82
Margaret Kappler, for support of Frank Kappler at Worcester Lunatic Hospital...	84 03
A. Y. Caswell, for support of Mary A. Caswell at Worcester Lunatic Hospital...	169 46

<i>Amounts carried forward.....</i>	<u>\$10,815 57</u>	<u>\$62,191 51</u>
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<i>Amounts brought forward.....</i>	\$10,815 57	\$62,191 51
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Received into the Treasury on account of PAUPERS:

From Mechanics Lodge, I. O. O. F., for support of William W. Horne at almshouse.....	80 71
Estate Mrs. Joseph Neal, for support of Joseph Neal at almshouse	97 50
George F. Offutt, for support of Fanny A. Sargent at Danvers Lunatic Hospital,	169 46
Mary Olwell, for support of James Olwell.....	15 86
John Pearson, for support of Sarah Pearson at Danvers Lunatic Hospital.....	169 46
F. H. Penniman, for support of Hannah Penniman at Alms- house	32 86
Estate of F. H. Penniman, for support of Hannah Penni- man at Almshouse.....	97 50
F. A. Sanderson, for support of Mary Sanderson at Wor- cester Lunatic Hospital...	4 64
Manuel Souza, for board at St. John's Hospital.....	15 71
Estate of Patrick Thornton, for support of Patrick Thorn- ton at Almshouse.....	38 57
Albert Van Ness, for support of Annie Van Ness at Worcester Lunatic Hos- pital	76 14
John C. Woodward, for support of George F. Woodward at Danvers Lunatic Hos- pital	42 71
Estate of John C. Woodward, for support of George F. Woodward at Danvers Lunatic Hospital.....	41 79

<i>Amounts carried forward.....</i>	\$11,698 48	\$62,191 51
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PAUPERS.

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<i>Amounts brought forward.....</i>	\$11,698 48	\$62,191 51
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Received into the Treasury on account of PAUPERS:

From Jennie F. Woodward, for support of George F. Woodward at Danvers Lunatic Hospital.....	84 96	
Margaret Dunnigan, for overdraft.....	3 00	
John F. Boyle, for sale of old chairs	5 00	
C. E. Collins, for sales from farm and fines.....	2,368 98	
Albert Pinder, for sales from farm	137 78	
C. H. Richardson, for state aid of Morty Scully, Thomas Doyle and D. Sullivan, board of sundry persons at Almshouse, use of telephone, exchange of furniture, etc.....	231 39	
Charles H. Ricker, for book-rack and dispensary supplies	22 50	
A. P. Bonney, for swine.....	10 00	
John Young, for wood and coal	1 50	
A. L. Kittredge, for overdraft.	30	
Lee, Higginson & Co., on loan.	16,000 00	
		30,563 89
		\$92,755 40

EXPENDITURES.

Paid for SERVICES:

To Charles H. Richardson, Secretary of Board of Overseers of the Poor, salary.....	\$1,300 00	
		\$1,300 00
Albert Pinder, superintendent of Almshouse, salary.....	\$ 60 17	
<i>Amounts carried forward.....</i>	\$60 17	\$1,300 00

<i>Amounts brought forward.....</i>	\$ 60 17	\$1,300 00
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Paid for SERVICES :

To Cornelius E. Collins, Superintendent of Almshouse, salary...	1,934 44	
William A. Lang, Chaplain and Teacher at Reform School, salary.....	26 78	
James J. Quinn, Chaplain and Teacher at Reform School, salary.....	1,369 35	
Alexis Fectau, Teacher at Reform School.....	612 00	
		4,002 74
Sundry persons, for labor at Almshouse	\$6,198 50	
		6,198 50

Paid for FUEL AT ALMSHOUSE :

To Edward Cawley, for coal.....	\$ 150 95	
William Kittredge Co., for charcoal.....	2 44	
William E. Livingston, for coal..	3,370 57	
		3,523 96

Paid for HAY, GRAIN, GROCERIES, PROVISIONS, ETC, AT ALMSHOUSE :

To G. A. & R. P. Coburn, for hay...	\$ 13 62	
Patrick Dempsey, for hay.....	33 00	
William P. Foye, for hay, grain, etc.....	521 26	
M. F. Gookin, for hay.....	49 34	
William E. Livingston, for meal and flour.....	36 00	
T. J. McDonald, for grain.....	680 51	
E. J. Noyes, for hay.....	10 00	
E. S. Sherman & Co., for flour, grain, etc.....	182 41	
<i>Amounts carried forward.....</i>	\$1,526 14	\$15,025 20

Amounts brought forward..... \$1,526 14 \$15,025 20

Paid for HAY, GRAIN, GROCER-
IES, PROVISIONS, ETC.,
AT ALMSHOUSE:

To Stiles & Co., for grain, etc.....	23 83
George W. Trull, for hay.....	20 30
E. N. Wood, for flour, oats, corn, meal, etc.....	1,759 03
E. N. Wood & Co., for salt and meal.....	4 40
Daniel S. Wood, for hay.....	12 65
H. Clay Varnum, for pasturing heifers.....	15 00
George L. Bean, for tobacco....	155 76
F. M. Bill, for groceries.....	880 44
G. J. & D. Bradt, for crackers...	79 05
Buttrick & Co., for groceries....	169 90
Chase & Sanborn, for coffee.....	183 50
C. W. Cheney, for olives and toothpicks.....	5 67
S. K. Dexter, for flour and pota- toes.....	539 39
John J. Doherty, for fruit.....	67 63
Donovan & Co., for flour, oat- meal, etc.....	1,424 66
Charles M. Erskine, for tobacco, groceries, etc.....	616 60
J. R. Ellis & Sons, for butter....	166 75
Eveleth & Strout, for apples....	11 65
G. M. Foster, for butter, cheese and potatoes.....	228 62
J. D. Hartwell & Co., for flour..	1,283 70
Henry Hatch, for cheese, eggs, etc.....	66 37
Ingham & Bradbury, for groceries	155 05
P. Keyes, Jr., for groceries, etc..	1,127 47
Kilpartrick Bros., for fruit, nuts and candy.....	34 85
G. F. Libby, for potatoes.....	260 75
Logue & Murray, for sugar.....	79 38
A. McDonald, for fruit.....	60 25
L. G. Moss, for mince meat.....	4 00
G. N. & E. Nichols, for eggs and butter	148 97

Amounts carried forward..... \$11,116 76 \$15,025 20

Amounts brought forward..... \$11,116 76 \$15,025 20

Paid for HAY, GRAIN, GROCER-
IES, PROVISIONS, ETC.,
AT ALMSHOUSE:

To William Nichols & Co, for gro- ceries	316 39
Nichols & Co., for tea and molasses.....	90 79
Horace Nixon, for groceries.....	86 34
H. E. Noyes, for potatoes.....	206 50
Parker & Hall, for eggs and butter	170 55
S. C. Patrick, for snuff.....	25 00
George E. Putnam, for oleomar- garine.....	52 16
S. Renaud, Jr., for potatoes.....	16 25
Patrick Rowan, for potatoes.....	18 75
Shapley Coffee Co., for coffee...	20 50
Simpson & Rowland, for gro- ceries.....	751 04
Stiles & Co, for pickles.....	3 75
C. G. Thurston, for potatoes.....	146 00
United States Tea Co., for tea and coffee.....	385 85
E. A. Wood, for potatoes.....	73 35
W. H. I. Hayes, for tobacco.....	97 80
J. J. Maguire, for tobacco.....	54 00
Allen Bros., for groceries.....	468 98
Armour & Co., for ham and pork,	94 35
Michael Corbett, for provisions..	102 28
D. J. Donovan, for poultry and provisions	86 40
Gilmore & Co., for potatoes.....	23 75
Jewett & Swift, for beef.....	84 43
George H. Kew, for maple syrup,	10 20
J. J. McCarthy, for provisions...	28 60
New Washington Market, for provisions	8 64
Norris Bros., for provisions.....	197 97
W. T. Patten, for provisions....	1,157 42
S. P. Pike, for provisions.....	478 49
Public Market and Packing Co., for provisions.....	2,347 88
Sheehan's Cash Market, for pro- visions	55 32

Amounts carried forward..... \$18,776 49 \$15,025 20

<i>Amounts brought forward.....</i>	\$18,776 49	\$15,025 20
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Paid for HAY, GRAIN, GROCER-
IES, PROVISIONS, ETC.,
AT ALMSHOUSE:

To F. A. Tuttle, for provisions.....	105 99	
Charles W. Wilder, for pork....	107 50	
D. L. Page Co., for pudding and ice cream.....	11 80	
Caswell, Livermore & Co., for fish	42 00	
H. J. Johnson, for fish.....	98 79	
M. B. Ranlett, for fish.....	79 15	
J. L. Shay, for fish.....	163 25	
J. A. Stubbs, for clams.....	6 00	
Taylor & Carpenter, for fish....	3 65	
B. F. Witham, for fish.....	704 63	
Fleischman & Co., for yeast....	127 20	
W. J. Burbeck, for milk.....	341 71	
		\$20,568 16

Paid for CLOTHING, DRY
GOODS, ETC.:

To J. W. Cassidy, for dry goods....	\$390 56	
J. L. Chalifoux, for clothing	147 47	
Cook, Taylor & Co., for dry goods.....	12 60	
L. F. Howard & Co., for suspend- ers.....	6 00	
Lamson & Moulton, for vests, hosiery, yarn, etc.....	56 59	
Lowell Hosiery Co., for hosiery..	36 00	
Merrimack Clothing Co., for clothing	125 75	
O'Donnell & Gilbride, for dry goods.....	978 18	
A. G. Pollard & Co., for dry goods	540 90	
Willard A. Brown, for leather and findings.....	29 75	
Boulger & McOsker, for boots, shoes and rubbers.....	223 67	
Patrick Fitzgibbon, for shoes....	23 15	
James E. Gorman, for boots and shoes.....	62 40	
<i>Amounts carried forward.....</i>	\$2,633 02	\$35,593 36

<i>Amounts brought forward.....</i>	\$2,633 02	\$35,593 36
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Paid for CLOTHING, DRY
GOODS, ETC.:

To Hiram H. Kelly, for shoe material.....	78 69	
H. Nixon, for shoes.....	5 40	
H O'Sullivan, for shoes, slippers, etc.....	186 28	
William A. Winslow, for boots and shoes.....	52 30	
		2,955 69

Paid for DRUGS, MEDICINES,
ETC.:

To C. F. Blanchard, for medicine....	\$12 63	
Carleton & Hovey, for medicine.	22 95	
Ellingwood & Co, for Elatol and medicine	59 05	
Goodale & Co., for medicine.....	20 03	
C. W. Lerner & Co, for disinfect- ant.....	33 45	
P. Lynch, for whiskey.....	104 63	
Martin & Co., for medicine.....	1 00	
		253 74

Paid for SUNDRIES AT ALMS-
HOUSE:

To Appropriation for Water Works, for water.....	\$1,410 83	
Lowell Gas Light Co., for gas...	810 37	
Lowell Gas Light Co., for stove and fittings.....	8 22	
N. E. Tel. and Teleg. Co, for ser- vice.....	87 75	
W. U. Teleg. Co., for telegrams.	60	
Otis Allen & Son, for sawdust...	7 00	
Burnham & Davis, for lumber...	11 37	
Howe Lumber Co., for lumber...	75 85	
Amasa Pratt & Co., for lumber..	196 62	
<i>Amounts carried forward.....</i>	\$2,608 61	\$38,802 79

<i>Amounts brought forward.....</i>	2,608 61	\$38,802 79
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Paid for SUNDRIES AT ALMS-
HOUSE:

To Charles E Adams, for hardware.	36
Bartlett & Dow, for hardware, tools, seed, etc.....	363 30
Boutwell Bros., for iron.....	5 10
Callahan & Sanborn, for hard- ware, hose, etc.....	87 30
Thompson Hardware Co., for hardware	40
H. R. Barker Mfg. Co., for hose, fittings, etc.....	32 95
T. Costello & Co , for galvanized iron, tin solder, labor, etc...	135 71
Crawford Laundry Machinery Co., for washing machine and basket.....	321 24
Drury & Green, for pipe, fittings, labor, etc.....	341 97
Farrell & Conaton, for pipe, fit- tings, labor, etc.....	249 66
C. O. A. Green, for steel figures..	4 90
James F. McElholm, for labor and material.....	16 60
Rice & Co , for window guards, etc.....	26 72
O. A. Richardson, for powder, whistles, etc.....	4 25
Scannell & Wholey, for castings, gaskets, etc.....	53 36
Union Iron Foundry, for sleigh shoes and castings.....	9 26
Aug. West, for combs, razor strops, etc.....	21 10
H. H. Wilder & Co., for kettle..	1 50
George F. Allen, for blanket, halter, repairing harness, etc.	7 85
T. M. Bolton, for horse covers, repairing harnesses, etc.....	59 70
Charles Clapp, for exchange of horses.....	170 00

<i>Amounts carried forward.....</i>	<u>\$4,521 84</u>	<u>\$38,802 79</u>
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<i>Amounts brought forward.....</i>	\$4,521 84	\$38,802 79
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Paid for SUNDRIES AT ALMS-
HOUSE:

To J. C. Donovan, for blankets, brushes, currycomb, repair- ing, etc.....	38 60	
Fay Bros. & Hosford, for repair- ing carriages.....	9 56	
McCoy & Co., for repairing car- riages.....	98 34	
John J. Donnelly, for shoeing horses.....	128 95	
M. V. B. Libbey, for shoeing horses.....	18 25	
M. J. Sullivan, for straps, sponges, exchange of cows, etc.....	69 05	
Bon Marche, for crockery ware, toys, etc.....	29 17	
John F. Bowditch, for brushes...	48 00	
J. J. Cluin, for knives, forks, spec- tacles, repairing clocks, etc..	58 50	
Samuel G. Cooper, for stencils...	4 25	
Charles F. Dow, for paper bags, crockery ware, etc.....	91 88	
A. Eaton & Son, for furniture and repairing.....	273 64	
Lowell Rubber Co., for rubber boots and sheeting.....	26 75	
Goodyear Gossamer Co., for rubber sheeting, etc.....	50 89	
M. F. Gookin, for furniture, china ware, etc.....	295 31	
J. A. Green, for sewing machine.	40 00	
L. W. Hawkes & Co., for furni- ture and bedding.....	72 50	
Peter A. Hayden, for oat cleaner,	25 00	
W. H. I. Hayes, for elevator....	20 00	
S. M. Howes Co., for range.....	135 00	
A. L. Kittredge, for paper, glass, labor, etc.....	130 07	
Alvin Lawrence, for repairing time detector.....	1 25	
<i>Amounts carried forward.....</i>	\$6,186 80	\$38,802 79

<i>Amounts brought forward.....</i>	\$6,186 08	\$38,802 79
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Paid for SUNDRIES AT ALMS-
HOUSE:

To Lowell Felting Mills, for felt....	4 75
John McAskie, for stretchers....	7 75
J. F. Puffer & Son, for forks, spoons, pails, etc.....	140 19
C. A. Reynolds, for dyeing blankets.....	1 50
Robertson & Co., for flower pots.	2 36
James F. Sargent, for chair braces.....	27 00
Whitcomb Metallic Bedstead Co., for bedsteads.....	562 20
Henry F. Whiting, for belting...	5 73
C. E. Collins, for expenses of re- moving prisoners, postage, etc.....	414 43
James Marren, for services at Almshouse.....	5 00
Thomas C. Lee, for insurance....	225 00
A. Y. Caswell, for mileage books,	80 00
Phillip P. Connors, for hose car- riage and nozzles.....	25 00
Cornelius Callahan Co, for hose..	292 50
Emergency Fire Hand Extin- guisher Co., for extinguishers,	48 00
Napoleon Benard, for tuning piano.....	2 50
George Gardner, for hymn book..	5 40
W. B. Glover, for ink.....	3 25
Thomas H. Lawler, for pens, ink, stationery, etc.....	75 22
J. Merrill & Son, for blank book.	3 00
F. E. Rollins, for typewriting....	1 98
J. L. Severance, for stamp.....	2 00
Boston Daily Advertiser, for ad- vertising.....	19 50
Cape Ann Printing Co., for ad- vertising.....	3 00
Citizen Newspaper Co., for sub- scription.....	5 00

<i>Amounts carried forward.....</i>	<u>\$8,149 06</u>	<u>\$38,802 79</u>
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<i>Amounts brought forward.....</i>	\$8,149 06	\$38,802 79
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Paid for SUNDRIES AT ALMS-
HOUSE:

To Daily News Job Print, for print- ing.....	18 25
Lowell Daily Courier, for sub- scription.....	6 00
American and Continental Sanitas Co., for disinfectant.....	8 50
D. R. Boynton, for roach exter- minator	12 00
C. B. Coburn & Co., for oil, paint, brooms, etc.....	119 86
C. G. Coburn, for guano.....	36 00
W. A. Dickinson, for soap.....	143 22
Daniel Gage, for ice.....	166 37
Josiah Gates & Sons, for leather..	90
W. H. Gibson, for medicine.....	6 25
John Ryan & Co., for waste.....	1 00
W. H. Spalding & Co., for lead, oil, etc.....	45 06
Talbot Dyewood and Chemical Co., for ammonia, etc.....	224 36
Connors Bros, for lime and brick,	69 20
Thomas F. Gilligan, for slating..	42 00
D. M. Prescott, for labor and material	5 75
J H. Walker, for cement, labor, etc	109 89
Chelmsford Pickling Works, for slaughtering	50 00
Ingham Bros., for slaughtering..	35 00
John Keats, for slaughtering....	40 00
Jonn C. Lannan, for slaughtering,	23 00
Fred W. Merrill, for slaughter- ing	8 58
John Leduc, for cows.....	270 00
Henry P. Perham, for making cider.....	4 95
Town of Chelmsford, for taxes..	37 84
F. W. Chadbourne, for profes- sional services.....	25 00

<i>Amounts carried forward.....</i>	\$9,658 04	\$38,802 97
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<i>Amounts brought forward.....</i>	\$9,658 04	\$38,802 79
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Paid for SUNDRIES AT ALMS-
HOUSE:

To W. J. Kelly, for professional services.....	8 00	
Charles H. Ricker, for professional services.....	30 00	
W. A. Sherman, for professional services.....	1 50	
J. H. Sparks, for professional services.....	14 00	
Keyes & Co., for carriage hire...	10 50	
Sheehan's Cash Market, for use of wagon	14 50	
Boston & Maine Railroad, for mileage book and transportation.....	34 97	
Boston & Maine Railroad, Southern Division, for transportation.....	2 06	
Boston & Maine Railroad, Western Division, for transportation.....	2 70	
New York & Boston Despatch Express Co, for transportation.....	75	
G. E. Stanley, for transportation,	26 69	
James Welch, for teaming.....	5 00	
		9,808 71

Paid on account of A M B U -
L A N C E:

To Charles H. Ricker, ambulance surgeon	\$ 146 82	
George B. McKenna, for services as driver.....	780 00	
David A. Ready, for services as driver.....	780 00	
New England Telephone and Telegraph Company, for service	229 75	
<i>Amounts carried forward.....</i>	\$1,936 57	\$48,611 50

<i>Amounts brought forward.....</i>	\$1,936 57	\$13,611 50
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Paid on ACCOUNT OF AMBU-
LANCE:

New England Telephone and Telegraph Company, for rent of private line.....	60 00
T. M. Bolton, for repairing har- nesses.....	18 90
C. Crevier, for repairing ambu- lance.....	20 00
M. R. Histen, for painting ambu- lance.....	42 00
Bartlett & Dow, for wire cutter..	25 00
Farrell & Conaton, for fittings and labor.....	3 00
N. J. Wier & Co., for wash bowl and tunnel.....	75
H. H. Wilder & Co., for boiler and cover.....	2 00
C. B. Coburn & Co., for lantern g'lobes.....	45
M. F. Gookin, for curtains.....	1 50
O'Donnell & Gilbride, for sheets and pillow cases.....	3 72
Mrs. G. B. McKenna, for launder- ing	3 00
Paris Laundry, for laundering...	20 04
Thomas McCormick, for repair- ing telephone line.....	20 00

2,156 93

Paid on ACCOUNT OF DIS-
PENSARY:

To John F. Boyle, clerk.....	\$714 00
John F. Boyle, for laundering, etc.....	8 95
J. W. Litch, clerk.....	170 00
J. W. Litch, for express and labor.....	4 62
George F. Blair, for medicine....	31 65
Clinton L. Bruce, for plaster.....	13 94

<i>Amounts carried forward.....</i>	\$943 16	\$50,768 43
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<i>Amounts brought forward.....</i>	\$943 16	\$50,768 43
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Paid on ACCOUNT OF DISPENSARY :

To Charles E. Carter, for medicine..	99 00
Codman & Shurtliff, for surgical instruments	20 75
P. Dempsey & Co., for liquors...	456 65
Ellingwood & Co., for medicine..	135 80
Fox, Fultz & Webster, for bottles and cocks.....	8 54
Goodale & Co., for medicine....	205 50
Lowell Plaster Co., for plasters..	10 80
Buttrick & Co., for lard, soap and salt	4 31
C. B. Coburn & Co., for bottles..	1 28
Simpson & Rowland, for sugar..	11 91
Talbot Dyewood and Chemical Co., for ammonia, salts, etc..	6 15
Bartlett & Dow, for scissors....	55
Derby & Morse, for battery cells,	1 25
J. W. Cassidy, for cotton cloth..	14 85
O'Donnell & Gilbride, for cotton cloth, towels, etc.....	13 58
Daily News Job Print, for printing	7 50
Thomas H. Lawler, for prescription book.....	6 50
Edward E. Ball, for lettering drawers	17 00
Lovejoy-Paul Express Co., for transportation.....	15

1,965 23

Paid for SERVICES OF PHYSICIANS OUT OF ALMSHOUSE:

To W. G. Eaton.....	\$ 126 80
James B. Field.....	5 00
J. W. Grady	28 50
A. J. Halpin.....	150 79
Leonard Huntress.....	5 00
W. A. Johnson.....	138 82

<i>Amounts carried forward.....</i>	\$454 91	\$52,733 66
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<i>Amounts brought forward.....</i>	\$454 91	\$52,733 66
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Paid for SERVICES OF PHYSI-
CIANS OUT OF ALMS-
HOUSE:

L. J. McDonough.....	149 12
J. F. Mulcahy.....	146 47
Charles H. Ricker.....	225 97

976 47

Paid for COFFINS, INTER-
MENTS, ETC.:

To Appropriation for Public Build- ings.....	\$ 626 50
Joseph Albert.....	50 00
Joseph Albert and E. Larabee..	20 00
Felix Albert.....	20 00
J. W. Brooks.....	91 00
J. S. Bourdon.....	22 00
Bourdon & Camire.....	3 00
Peter Davey.....	93 00
F. H. Ethier & Co.....	5 00
James A. Keyes.....	82 00
J. F. O'Donnell.....	74 00
John F. Rogers.....	47 50
E. E. Rowell.....	8 00
John A. Weinbeck.....	5 00
Charles M. Young & Co.....	3 00

1,150 00

Paid for LABOR, FUEL, ETC.,
AT WOOD YARD:

To Sundry persons, for labor.....	\$ 3,597 26
Appropriation for Public Build- ings, for filing saws.....	6 93
Appropriation for Watering Streets, for assessments....	29 84
Appropriation for Water Works, for water.....	21 00
Edward Cawley, for coal.....	10 88
Connors Bros., for wood.....	256 28

<i>Amounts carried forward.....</i>	\$3,922 19	\$54,860 13
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<i>Amounts brought forward</i>	\$3,922 19	\$54,860 13
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Paid for LABOR, FUEL, ETC.,
AT WOOD YARD :

To Daniel Gage, for wood.....	1,687 62
Daniel Gage, for ice.....	6 48
D. W. Horne & Son, for coal....	67 50
William E. Livingston, for coal..	1,012 45
E. H. Shaw, for wood.....	212 63
W. P. Foye, for grain.....	148 54
T. J. McDonald, for grain.....	134 53
E. O'Heir, for hay.....	241 93
E. N. Wood, for grain.....	23 46
E. Godelot, for clipping horse...	3 00
Charles E. Adams, for hardware.	95
Bartlett & Dow, for hardware and tools	4 88
Thompson Hardware Co., for sash cord, etc.....	86
Mark Holmes, Jr., & Son, for pins.....	1 00
Farrell & Conaton, for hose and repairing	14 43
Charles T. Haskell, for filing saws	6 40
Rice & Co., for coal screen.....	7 50
William Clee, for soap.....	4 00
C. B. Coburn & Co., for burners and wicks	64
F. A. Riley, for oil, soap and matches.....	12 64
T. M. Bolton, for muzzle, feather duster, etc.....	7 85
J. C. Donovan, for repairing har- nesses.....	35 70
H. J. O'Dowd & Co., for condi- tion powders.....	1 50
M. J. Sullivan, for whip, blanket and repairing harnesses.....	8 00
C. Crevier, for blacksmithing, re- pairing wagons, etc.....	121 70
T. J. Reynolds, for shoeing.....	115 95
A. W. Baker, for veterinary den- tistry	7 00

<i>Amounts carried forward</i>	\$7,811 33	\$54,860 13
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<i>Amounts brought forward.....</i>	\$7,811 33	\$54,860 13
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Paid for LABOR, FUEL, ETC.,
AT WOOD YARD :

To Patrick Fitzgibbon, for rubber boots.....	3 00	
Thomas H. Lawler, for paper....	72	
Lowell Rubber Co., for repairing rubber boots.....	90	
John Sullivan, for chopping blocks.....	1 00	
		7,816 95

Paid for SUPPORT OF SUN-
DRY PERSONS OUT OF
ALMSHOUSE :

To Commonwealth, for support of sundry persons, as follows:
In Danvers Lunatic Hospital, Elizabeth McCue and Benj. C. Hill. In Taunton Lunatic Hospital, Cornelius Quinn and Charles S. Warren. In Worcester Lunatic Hospital, Sarah J. Burns, Mary J. Brennan, Mary Brunette, Celia Donovan, Mary McMahon, Augusta J. Nickles, Cornelia W. Sproule, Patrick Carolin, Frank Copla, Frank E. Davis, Michael Gallagher, Joseph Linnehan, Terance Fitzpatrick, George Larochelle, Joseph S. Moulton, William J. McCullough, Ernest P. McFarlin, Henry O'Hara, Charles Parker, John E. Stronquist and Winfield S. Tucker. In Westboro Insane Hospita', Bridget Jones. At State Farm, James Commerford, Michael O'Mealey, Edwin Stout,

<i>Amount carried forward.....</i>		\$62,677 08
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Amount brought forward.....

\$62,677 08

Paid for SUPPORT OF SUN-
DRY PERSONS OUT OF
ALMSHOUSE:

Daniel F. Sullivan, John H. Ward and Frank Worthley. At State Alms house, Mary Briscoe, Mary Blake, Kate Brown, Marie Chouinard, Mary Craige, Octavia M. Caza, Mary J. Fenderson, Kate Keegan, Annie Marshall, Bridget Powers, Daniel Baxter, Peter Craig, George Donnelly and Chas. Riley. In school for feeble minded, Matthew Donnelly.		\$ 2,016 62
To John M. Fiske, for support of sundry persons in Middlesex County House of Correction,		102 86
Danvers Lunatic Hospital, for support of Jane Beckwith, Edith P. Bissell, Helen Coleman, Mary Collins, Hannah Kershaw, Charlotte K. Knowles, Sarah Pearson, Fanny A. Sargent, Ora A. Brown, David C. Courser, James J. Dunphy, Henry M. Flanders, Edwin Price and George F. Woodward.....		2,105 71
Ayer Home for Young Women and Children, for support of Kingsley children.....		168 41
Lowell Hospital Association, for support of Phoebe Dodge, Lucinda Harris and Frances Richardson		97 64
Massachusetts School for Feeble Minded, for board and tuition of Kate Roberts, Matthew Donnelly and Charles F. Sanderson		423 82

Amounts carried forward.....

\$4,915 06

\$62,677 08

<i>Amounts brought forward.....</i>	\$4,915 06	\$62,677 08
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Paid for SUPPORT OF SUN-
DRY PERSONS OUT OF
ALMSHOUSE:

To Sisters of Charity (Salem), for support of Howe children and Walter Butcher.....	211 50
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Sisters of Charity (Lawrence), for support of Andiew and James Roark.....	24 00
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St. Peter's Orphan Asylum, for support of Lillie and Grace Connors, Mary, Kate and Annie Flannagan, Josephine Griffin, Mabel Hoyt, Alice Kennelly, Nellie Lecoue, Etta Manning, Ada, Annie and Lizzie Moran, Nellie O'Brien, Ellen and Annie Powers, Annie and Lena Smith	1,053 18
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St. John's Hospital, for support of Elizabeth Bean, Mary Berry, Catharine Boyd, Mary Bernard, Sarah Beven, Brid- get Boyle, Catharine Berri- gan, Maud Brown, Ann Campbell, Catharine Cuniff, Bridget Clark, Mary Clowey Jane Clowey, Ernestine Cou- ture, Josephine Currier, Mary Collins, Esther Coughlin, Mary Devine, Mary Doherty, Marie Doyon, Mary Duffy, Mary Daley, Catharine Daley, Nora Dolan, Cecelia Fisher, Florence Flahavan, Bridget Foye, Ann Finley, Mary Farrell, Mary Guerin, Ellen Gleason, Margaret Gilroy, Catharine Golden, Jane Gal'agher, Hannah Green, Hannah Haggerty, Bridget

<i>Amounts carried forward.....</i>	\$6,203 74	\$62,677 08
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<i>Amounts brought forward.....</i>	\$6,203 74	\$62,677 08
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Paid for SUPPORT OF SUN-
DRY PERSONS OUT OF
ALMSHOUSE:

Higgins, Elizabeth Hart,
Mary Huggard, Fanny Han-
son, Alice Heslin, Mary Kit-
tell, Mary Kypes, Abigail
Lemay, Mary Lombard, An-
geline Laudry, Mary Lynch,
Elizabeth Monty, Elizabeth
McDonald, Ellen McOsker,
Jane McGluger, Margaret
McDonough, Catharine Mc-
Gettigan, Emma McCawley,
Angeline Mongrew, Honora
Mulcahy, Margaret Mon-
tague, Ann McEvoy, Julia
Murphy, Rose McGillion,
Marie Moule, Marie Mul-
laney, Mary Mills, Mary
Maloney, Catharine Mc-
Aloon, Elizabeth McGrue,
Sarah J. McLelland, Mar-
garet Manning, Mary O'Neil,
Sarah Purple, Jane Robin-
son, Bridget Ryan, Addell
Robarge, Catharine Rey-
nolds, Mary Scully, Hannah
Sullivan, Susan Sweetser,
Hannah Svenson, Catharine
Scanlon, Margaret Smith,
Mary Sullivan, Elizabeth
Turner, Annie Tryon, Eliza-
beth Waite, Elizabeth West,
Mary Walker, Mabel Wood,
Mary Whelan, Elizabeth
Whelan, Ellen Whittaker,
Fred H. Blanchard, John
Barden, James E. Boutillier,
John T. Billings, Amos Bow-
den, John Byman, Charles
Bakie, Joseph Burke, Clifton

<i>Amounts carried forward.....</i>	\$6,203 74	\$62,677 08
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<i>Amounts brought forward.....</i>	\$6,203 74	\$62,677 08
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Paid for SUPPORT OF SUN-
 DRY PERSONS OUT OF
 ALMSHOUSE :

E. Barrows, Patrick Buckley,
 Michael Brennan, Alex.
 Brown, Malachi Burns,
 Charles Babb, Michael
 Carr, Patrick Cassidy, Wi-
 liam Cronin, Peter Collins,
 Thomas Callan, Patrick Con-
 ners, James Cunningham,
 George Cororio, James Cor-
 rigan, Samuel Clautier, Chas.
 Courtinambe, A n t h o n y
 Coyle, Thomas Crowe, James
 Coughlin, James Conway,
 William Coughlin, Thomas
 Cady, Cornelius Carmody,
 Michael Cassidy, Dennis
 Droney, Elias Demendonca,
 John Daily, Michael Daily,
 Thomas Dolan, John Dono-
 hoe, Harry Delinaue, Sebas-
 tin Espinola, Lyman S Field,
 William Fleming, Thomas
 Flannagin, Harry A. Frost,
 Michael Frawley, John E.
 Fish, Antoine Fremont, Pat-
 rick Fitzpatrick, Charles
 Flannery, Benedict Gaelin,
 Charles S. Goodrow, George
 Garrett, Louis Gordon,
 Richard Green, George
 Guerin, Patrick Gale, Mathias
 Gillas, Caliste Grenier,
 Thomas Gordon, Alfred
 Girard, Marcus Hartington,
 William Horne, Richard
 Hartney, George Hendee,
 George Howe, John
 Hamilton, Thomas Healey,
 Thomas Horan, Stephen Hig-

<i>Amounts carried forward.....</i>	\$6,203 74	\$62,677 08
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<i>Amounts brought forward.....</i>	\$6,203 74	\$62,677 08
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Paid for SUPPORT OF SUN-
DRY PERSONS IN ALMS.
HOUSE :

gins, Fred Holangen, Charles
A. Johnson, Thomas Jen-
nings, James Jennings, Wm.
H. Johnston, Peter Janapa-
lus, Michael Kelty, John
Keefe, Thomas Loughran,
John E. Landry, Peter Len-
non, George J. Lukins,
Thos. Leary, Edward Lewis,
James McKenna, Dominick
McManniman, Daniel McFee,
Joseph Miller, Alfred Me-
chand, Cornelius McNally,
Manuel Martin, Thomas Mul-
ranan, Andrew Moore, Mat-
thew McDermott, Richard
McHugh, William McQuade,
James McFarland, John Mc-
Gillardy, Daniel McDonald,
Thomas McKenna, James
McKernan, Cornelius Mc-
Cusker, Daniel Murphy,
Michael Noonan, John
Noonan, Frank Nunes, Frank
O'Brien, Thos O'Rourke, Thos.
O'Brien, John W. O'Connor,
Moses Patnaud, Oscar R.
Packard, James Quinn,
Michael Reid, Thomas Roy,
Jacob Roberts, George Rop-
son, John Rourke, John E.
Roberts, William Riordan,
Henry Smith, Anthony Silva,
Thomas Savage, James
Sheridan, John Tuttle, James
Toohey, Thomas Tobin,
James Thompson, James
Waters, John White, Simeon
Walton and Thomas Ward,

4,936 97

<i>Amounts carried forward.....</i>	<u>\$11,140 71</u>	<u>\$62,677 08</u>
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Amounts brought forward..... \$11,140 71 \$62,677 08

Paid for SUPPORT OF SUN-
DRY PERSONS OUT OF
ALMSHOUSE:

To Taunton Lunatic Hospital, for support of Thomas Lynch, Cornelius Quinn and Charles S. Wilde	114 66	
Westboro Insane Hospital, for support of Marie Bowen, Mary Collins, Bridget Jones and George H. Larochelle...	295 75	
Worcester Insane Asylum, for support of Hannah Shea, Frank Allen and John Tobin,	510 25	
Worcester Lunatic Hospital, for support of Lusylvia T. Bartlett, Mary Briscoe, Jane B. Berry, Deliana Bastian, Mary A. Caswell, Marie Chou- inard, Annie Carr, Octavia M. Caza, Celia Donova, Mary J. Fenderson, Mary E. Lecour, Angeline Langry, Mary McMahon, Augusta J. Nickles, Bridget Powers, Kate Sullivan, Cornelia W. Sproul, Lillian F. Sargent, Delina Tailley, Annie Van Ness, Alice B. Yasinski, George Bailey, Patrick Carolin, Frank E. Davis, Terance Fitzpatrick, Thomas J. Flynn, Michael J. Gallagher, James D. Hodge, Frank Kappler, James McCartney, Michael J. McDermott, Ernest P. Mc- Farlin, Joseph S. Moulton, James Quinn, John E. Stron- quist, Eugene C. Sullivan, John Tobin, Winfield S. Tucker.....	3,881 27	
		15,942 64
<i>Amount carried forward</i>		\$78,619 72

Amount brought forward..... \$78,619 72

Paid CITIES AND TOWNS:

To City of Boston, for aid rendered, Julia Foley, Minnie Fowler, Hattie L. Huse, Anne S. Roberts, Maud Var- num, Enoch A. Brackley, James W. Clark, Anthony H. Corrigan, John J. Donovan, John Dalton, Terance Fitz- patrick, Philip Hezina, Charles A. Hope, John F. Maguire, Francis W. O'Brien and burial of Arthur and James Fosdick.....	291 80	
City of Brockton, for aid rendered Hattie Arey and family.....	9 33	
City of Cambridge, for aid ren- dered Mrs. Farley and chil- dren and Michael Sheridan's family.....	34 62	
City of Chelsea, for aid rendered family of Alma Gregg or Jones	21 75	
City of Fall River, for aid ren- dered Rose Keene and family, Annie Swist and John H. Duffy	81 09	
City of Fitchburg, for aid ren- dered Minnie Durcharme...	8 18	
City of Lawrence, for aid ren- dered Ann Coleman, Mrs. John Murray, Mary Preston and family and Thomas Roth- well.....	30 55	
City of Lynn, for aid rendered James J. Murphy and family,	27 00	
City of New Bedford, for aid ren- dered Margaret Burke.....	12 00	
City of Newburyport, for aid ren- dered Eliza Hogan and J. J. Morrison	72 25	
<i>Amounts carried forward</i>	\$588 57	\$78,619 72

Amounts brought forward..... \$ 588 57 \$78,619 72

Paid CITIES AND TOWNS:

To City of Salem, for aid rendered Margaret King and Frank A. Trainor	54 77
City of Somerville, for aid rendered Michael Sheridan and family	11 25
City of Springfield, for aid rendered Mary Ash, Frances Larose and Robert H. Sladen,	41 25
City of Taunton, for aid rendered George Timlin	26 00
City of Worcester, for aid rendered Ellen and Thomas Kiernan	29 00
Town of Avon, for aid rendered Mary A. Ryan	15 00
Town of Beverly, for aid rendered David Rogers	636 49
Town of Chelmsford, for aid rendered Martha Hall	82 20
Town of Danvers, for aid rendered W. I. Hatch and family	51 50
Town of Easthampton, for aid rendered Mrs. Frances Larose	5 00
Town of Hudson, for aid rendered Mrs John T. Bushy..	89 50
Town of Methuen, for aid rendered Ellen M. Dole	30 00
Town of North Andover, for aid rendered Mary Adams	32 37
Town of Peabody, for aid rendered family of Emanuel Perry	25 37
Town of Tewksbury, for aid rendered W. S. Tucker	2 75
Town of Westford, for aid rendered Freeman W. Howe and wife	96 00

1,817 02

Amount carried forward.....

\$80,436 74

Amount brought forward.....

\$80,436 74

**Paid SUNDRY PERSONS OUT
OF ALMSHOUSE:**

To H. G. T. Aldrich, for board of Jane Wright.....	\$ 32 35
James Brown, for board of Brown children.....	72 00
Mrs. Aaron L. Bent, for board of Jane Wright.....	45 85
W. Burgess, for care of William Vail	2 00
Julia Cole, for board of Ellen Holmes	42 80
Mrs. S. M. Dickey, cash.....	102 00
James Devine, cash.....	96 00
Margaret Dunnigan, cash.....	12 00
Sarah Evans, cash	6 00
Elizabeth P. Forsaith, cash.....	72 00
Lucretia Freeman, cash.....	72 00
William Goodale, cash.....	54 00
Patrick Hand, for board of Kehoe children	48 00
Sarah L. Harvey, cash.....	72 00
Ellen Leahey, cash.....	5 00
Mrs. Elijah Mixer, cash.....	104 30
Lilla Molloy, cash.....	12 00
Mrs. Anthony McDonald, cash..	8 43
Mary McLaughlin, for board of Terance O'Brien	25 00
Jane McQuade, cash.....	72 00
Charles McDermott, for board of Hanley children	16 00
Thomas O'Rourke, cash.....	33 00
Mary O'Conner, rent for Alexander Gordon	12 00
Mrs. F. O'Brien, for board of Cuddihy children.....	82 29
Mrs. James O'Brien, for board of Brown and Cuddihy chil- dren	54 01
Mary F. Riley, for board of Terance O'Brien.....	30 00
Sarah T. Richardson, cash.....	60 00

Amounts carried forward.....

\$1,243 03

\$80,436 74

<i>Amounts brought forward.....</i>	\$1,243 03	\$80,436 74
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Paid SUNDRY PERSONS OUT
OF ALMSHOUSE:

To Henry Runels, rent for Mary A. Fogg.....	42 00	
Agnes Smith, cash.....	72 00	
F. E. Saunders, cash for Charles LeBarron.....	72 00	
Mary Tenary, for board of Annie Tenary.....	78 20	
Minerva White, cash.....	60 00	
Ella Witherell, cash.....	60 00	
S. L. Ward, for removal of Wm. Goodale.....	3 00	
		1,630 23

Paid for SOLDIERS' RELIEF:

To Angelina Cook, cash.....	78 00	
Mary Ann Corr, cash.....	8 00	
William A. Fifield, cash.....	45 00	
Mrs. William A. Fifield, cash....	55 00	
Joseph M. Fowler, cash.....	120 00	
Emily B. G. Fullerton, for nursing Mr. and Mrs. Haynes...	38 57	
Eliza Jordan, cash.....	120 00	
Mrs. John Kittredge, for board of Foster children.....	312 80	
Anna Kittredge, cash.....	70 00	
Ada Kidder, cash.....	15 00	
Mrs. Albert C. Lang, cash.....	180 00	
Rebecca Mullen, cash.....	120 00	
John Mead, cash.....	60 00	
Mary Miller, cash.....	6 00	
Marietta Neville, cash.....	7 00	
Isabella O'Brien, cash.....	48 00	
John A. O'Brien, cash.....	60 00	
Mrs. John L. Bowers, cash.....	40 00	
Samuel W. Preston, cash.....	10 00	
Mary E. Pepper, cash.....	56 00	
<i>Amounts carried forward.....</i>	\$1,449 37	\$82,066 97

<i>Amounts brought forward.....</i>	\$1,449 37	\$82,066 97
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Paid for SOLDIERS' RELIEF :

To Mrs. Ira Stickney, cash.....	120 00	
Jane Sewell, cash.....	10 29	
Phineas P. Trowbridge, cash....	60 00	
		1,639 66

Paid for PROVISIONS, FUEL
AND CLOTHING ON OR-
DERS :

To Allen Bros.....	\$ 24 00	
Buttrick & Co.....	9 00	
John H. Burke & Co.....	2 00	
Michael Corbett.....	50 00	
S. W. Churchill.....	50 00	
Edward Cawley.....	5 75	
Charles M. Erskine.....	78 00	
Estate B. F. Hale.....	72	
Farley's Cash Grocery.....	15 00	
Fuller & Clark.....	12 00	
David Gerow.....	3 75	
J. J. Gilbride.....	10 00	
J. D. Hartwell & Co.....	38 00	
Johnson Bros	18 00	
William Kittredge Co.....	10 50	
Lowell Gas Light Co.....	54 00	
Lyons & Burns.....	43 00	
George Lynch.....	6 00	
Ed. Martin.....	72 00	
J. J. McCarthy.....	70 00	
James McKinley.....	8 00	
C. A. Mitchell & Co.....	21 72	
Merrimack Clothing Co.....	10 00	
William Nichols & Co.....	15 00	
Ober & Raynol.....	6 00	
Charles H. O'Donnell.....	3 00	
T. M. O'Neil & Co.....	12 00	
Pawtucketville Cash Grocery....	22 00	
A. D. Puffer & Son.....	12 00	
P. F. Queenan	9 00	
Thomas F. Roche.....	39 00	
<i>Amounts carried forward.....</i>	\$729 47	\$83,706 63

<i>Amounts brought forward.....</i>	\$ 729 47	\$33,706 63
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Paid for PROVISIONS, FUEL
AND CLOTHING ON OR-
DERS:

To F. A. Riley.....	3 65
Savage Bros	108 00
C. E. Stevens.....	24 00
P. P. Stiles & Co.....	36 00
John Whitty.....	22 00
Charles E. Wilson	2 00
Whipple Street Market.....	2 00

927 12

Paid for SUNDRIES OUT OF
ALMSHOUSE:

To James F. Walsh, for services as clerk in Secretary's office...	\$997 30
Nellie A. Keyes, for services as clerk in Secretary's office...	624 00
Appropriation for Roads and Bridges, for bill paid County of Middlesex.....	8 32
C. H. Richardson, for travelling expenses, postage, etc.....	96 60
New England Telephone and Telegraph Company, for service.....	67 70
Boston & Maine Railroad, for tickets.....	3 00
A. Y. Caswell, for tickets.....	99 04
George O. White, for tickets....	128 45
Bachelor, Dumas & Co., for blank books	20 15
Citizen Newspaper Co, for book, printing and advertising....	58 50
Campbell & Hanscom, for print- ing and advertising.....	22 25
Daily News Co., for advertising.	3 44
Le National, for advertising....	3 75
Lowell Courier Publishing Co., for advertising.....	3 75

<i>Amounts carried forward.....</i>	\$2,136 25	\$84,633 75
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<i>Amounts brought forward.....</i>	\$2,136 25	\$84,633 75
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Paid for SUNDRIES OUT OF
ALMSHOUSE :

To Lowell Sun, for advertising.....	3 75	
Morning Mail Corporation, for advertising.....	3 90	
Thomas Groom & Co., for blank books	11 50	
Thomas H. Lawler, for station- ery.....	9 25	
Lyon Platinum Pen Co., for pens,	3 00	
G. C. Prince & Son, for station- ery	9 00	
M. F. Gookin, for table.....	3 00	
A. L. Kittredge, for shades, cords and pulleys.....	4 32	
O'Donnell & Gilbride, for cur- tains	4 25	
Putnam & Son, for clothing....	1 95	
J. C. Donovan, for harness and repairing	52 75	
H. J. O'Dowd, for duster.....	3 50	
Sawyer Carriage Co., for repair- ing carriages.....	41 40	
P. H. Heelon, for carriage hire..	3 50	
Keyes & Co., for carriage hire...	6 00	
J. H. Sparks, for carriage hire...	34 00	
American Express Co., for trans- portation.	75	
		2,332 07
Total expenditure for the year 1893..		\$86,965 82
Balance undrawn Dec. 31, 1893.....		5,789 58
		\$92,755 40

NEW BUILDINGS AT CITY FARM.

Balance undrawn Jan. 1, 1893.....	\$10,540 36	
Transferred from Reserved Fund....	2,700 00	
	\$13,240 36	\$13,240 36

EXPENDITURES.

Paid for SUNDRIES :

To Sundry persons, for labor.....	\$1,219 89	
Appropriation for Public Build- ings, for labor and material.	31 21	
Merrill & Cutler, for plans and specifications for addition to Insane Hospital.....	35 00	
Chelmsford Foundry Co, for fire escapes.....	3,375 95	
T. Costello & Co, for plumbing (contract).....	814 00	
T. Costello & Co., for pipe, fit- tings, labor, etc.....	230 32	
Farrell & Conaton, for heating apparatus (contract).....	943 00	
Farrell & Conaton, for pipe, fit- tings, labor, etc.....	557 17	
C. F. Foss & Co., for mason work and material.....	855 39	
Robert Goulding, for slating (contract)	285 03	
C. H. Nelson, for labor.....	213 50	
	\$8,560 46	
<i>Amount carried forward.....</i>		\$8,560 46

Amount brought forward..... \$8,560 46

Paid for SUNDRIES :

To D. M. Prescott, for plastering...	248 00	
Scannell & Wholey, for brass, feed pipe, labor, etc.....	392 53	
Staples Bros., for brick work....	615 27	
William H. Wiggin, for carpenter work.....	2,022 02	
Burnham & Davis, for lumber...	311 67	
J. W. Bennett & Co., for lumber, window cord, etc.....	95 05	
Howe Lumber Co., for lumber...	387 87	
Amasa Pratt & Co., for lumber, doors and windows.....	311 50	
American Bolt Co., for iron work	100 00	
Bartlett & Dow, for hardware...	75 93	
Edward Cawley, for fire brick and cement.....	67 20	
Millard F. Davis, for tracing de- tails of fire escape.....	10 00	
Campbell & Hanscom, for adver- tising	3 00	
Benjamin Lenthier, for advertis- ing	3 50	
Lowell Daily Sun, for advertising	6 00	
Daniel McCarthy, for teaming...	2 00	
Total expenditure for the year 1893..		\$13,212 00
Balance undrawn Dec. 31, 1893.....		28 36
		\$13,240 6

POLICE.

Balance undrawn Jan. 1, 1893.....	\$ 525 68	
Appropriation.....	82,000 00	
		\$82,525 68

RECEIPTS.

Received into the Treasury on account of POLICE:

From Appropriation for Schools, for services of officers.....	\$ 4 13	
Appropriation for Roads and Bridges for horse.....	150 00	
Appropriation for Reserved Fund, for services of officers.....	1,477 64	
Appropriation for City Hall and Memorial Building, for services of officers....	118 25	
Appropriation for Health, for services of officers.....	5 50	
Appropriation for Water Works, for discount on bills.....	18 34	
Charles Howard, for services of officers, sale of cloth, helmets, etc.....	3,963 27	
H. G. Cushing, for fines, fees, etc.....	916 00	
<i>Amounts carried forward.....</i>	\$6,653 13	\$82,525 68

POLICE.

149

<i>Amounts brought forward.....</i>	\$6,653 13	\$82,525 68
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Received into the Treasury on account of POLICE :

From John M. Fisk, for fines.....	156 00	
James F. Savage, for fines, fees, etc	4,741 17	
Lee, Higginson & Co., on loan,	18,000 00	
		29,550 30
		<u>\$112,075 98</u>

EXPENDITURES.

To Charles Howard, Chief of Police, salary	\$2,000 00	
Samuel P. Hadley, Police Justice, salary	100 00	
George R. Davis, Deputy Chief of Police, salary.....	1,400 00	
James A. McQuade, Deputy Chief of Police, salary.....	1,400 00	
Sundry persons, for services as officers	87,554 83	
Sundry persons, for services as special officers, July 4th....	276 28	
Sundry persons, for labor.....	4,949 87	
		\$97,680 98

Paid for FUEL :

To Appropriation for Paupers, for wood.....	\$ 5 50	
Edward Cawley, for coal.....	399 87	
William E. Livingston, for coal..	462 88	
		868 25

Paid for SUNDRIES :

To Appropriation for Watering Streets, for assessments.....	\$ 10 40	
<i>Amounts carried forward.....</i>	\$10 40	\$98,549 23

<i>Amounts brought forward.....</i>	\$ 10 40	\$98,549 23
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Paid for SUNDRIES :

To Appropriation for Paupers, for hay and carrots.....	91 77
Appropriation for Water Works, for water.....	287 66
Lowell Electric Light Corpora- tion, for lighting.....	37 67
Lowell Gas Light Co., for gas...	344 19
Lowell Gas Light Co., for rent of gas heater	6 00
New England Telephone and Tele- graph Co., for service.....	252 70
New England Telephone and Tele- graph Co., for rent of private instruments	420 08
Michael J. Burns, for repairs of telephone system, express, postage, etc.....	65 45
Daniel M. Hayes, for travelling expenses.....	8 60
Charles Howard, for sundry ex- penses.....	52 95
A. E. Libby, for witness fees in case of White vs. Libby....	18 00
Johannah Doyle, for labor.....	\$65 00
John Grant, for labor....	
Charles H. Ricker, for professional services	8 00
American Bolt Co, for bolts....	8 25
O. E. Averill, for blacksmithing..	50
Bartlett & Dow, for hardware, door mats, etc.....	29 27
H. R. Barker Manufacturing Co., for labor.....	6 26
Beattie Zinc Works, for brass posts.....	90 00
Lowell Plating Co., for plating..	2 80
William McLarney & Co., for ash barrels, brass fixtures, etc...	17 00
A. F. Nichols, for castings and composition.....	18 15

<i>Amounts carried forward.....</i>	\$2,236 95	\$98,549 23
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<i>Amounts brought forward.....</i>	\$2,236 95	\$98,549 23
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Paid for SUNDRIES:

To N. E. Gamewell Co., for auto- matic Police alarm, ribbon, etc.....	204 89
Pettingell, Andrews Co., for okonite, wire, etc	33 62
H. H. Wilder & Co., for labor and material.....	7 50
C. Zimmer, for shears, keys, labor, etc.....	51 40
Derby & Morse, for electrical supplies and labor.....	15 76
G. A. Andrews, Agent, for cre- sole.....	2 00
American Sanitary Association, for disinfectant.....	2 45
Buttrick & Co., for tea, coffee and sugar	155 92
Fred M. Barney, for kirkline....	45
C. B. Coburn & Co., for oil, brooms, powder, dusters, etc.....	51 18
N. Davis & Co., for water cooler.....	10 00
W. H. Gibson, for hoof com- pound.....	1 50
Daniel Gage, for ice.....	62 40
C. W. Lerner & Co, for disin- fectant	12 25
Middlesex Steam Laundry, for laundering.....	13 16
J. E. Phipps, for axle grease....	7 50
F. Severance, for crackers.....	95 00
Margaret Sullivan, for milk.....	14 52
P. P. Stiles & Co., for sugar, coffee, etc.....	88 31
L. G. Stone, for medicine.....	2 50
Smith & Gould, for lotion.....	3 00
Talbot Dyewood and Chemical Co., for salammoniac, vitriol, etc	96 23

<i>Amounts carried forward.....</i>	<u>\$3,168 49</u>	<u>\$98,549 23</u>
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<i>Amounts brought forward.....</i>	\$3,168 49	\$98,549 23
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Paid for SUNDRIES :

To Samuel O. Aborn, for wreaths, figures, helmets, etc.....	118 55
John P. Lovell Arms Co., for badges	15 30
John J. Cluin, for oil and wreath	2 20
Middlesex Company, for cloth...	694 15
George W. Simmons & Co., for caps	162 00
Waterbury Button Co., for but- tons	45 00
G. M. Leavens & Son, for settees,	21 45
Lowell Rubber Co., for mat, tape, syringe, etc.....	4 70
C. H. McEvoy, for worsted cord	2 75
Pulsifer, Jordan & Co., for regis- ter paper.....	128 71
A. G. Pollard & Co., for sheets and pillow cases.....	4 48
James F. Sargent & Co., for chair braces.....	17 25
Butterfield Printing and Binding Co., for printing.....	73 25
Daily News Job Print, for post- als.....	75
Thomas H. Lawler, for books, stationery, etc.....	134 85
Taylor Bros, for stationery.....	1 13
G. F. White & Co., for mucilage bulb	1 00
O'Donnell & Gilbride, for draping wagon.....	15 00
Loupret's Studio, for photo- graphs	10 00
A. E. O'Heir & Co., for apprais- ing furniture.....	10 00
J. F. Puffer & Son, for furniture, carpets, cuspidores, etc.....	87 19
John Welch, for repairing book case.....	20 00

<i>Amounts carried forward.....</i>	<u>\$4,738 20</u>	<u>\$98,549 23</u>
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<i>Amounts brought forward.....</i>	\$4,738 20	\$98,549 23
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Paid for SUNDRIES :

To I. B. Leclair, for amount refunded by resolution.....	38 51	
George F. Dyer, for carrots....	7 23	
C. H. Hanson & Co., for oats....	61 50	
T. J. McDonald, for oats, hay, etc.....	166 74	
William H. Wiggin, for hay....	130 98	
E. N. Wood, for oats, etc.....	195 72	
F. J. Burlingham, for whips....	4 50	
Cahill Bros., for shoeing horses..	68 65	
J. C. Donovan, for repairing har- nesses, etc	45 43	
H. F. Ebert, for repairing har- nesses	9 75	
Fay Bros. & Hosford, for repair- ing carriages.....	71 51	
M. V. B. Libby, for shoeing horses	54 65	
Sawyer Carriage Co., for repair- ing carriage.....	62 45	
J. H. Swett, for repairing car- riages	93 80	
Peter A. Hayden, for oat cleaner	25 00	
Keyes & Co., for horse	175 00	
Washington House Sales Stable, for horse.....	162 50	
Patrick McKim, for clipping horse	2 00	
Keyes & Co., for carriage hire...	5 00	
J. F. O'Donnell, for carriage hire.....	6 00	
D. P. Knowlton, for teaming....	4 00	
Boston & Maine Railroad, for transportation.....	3 10	
Boston & Maine Railroad, South ern Division, for transporta- tion.....	1 50	
		6,133 72
<i>Amount carried forward.....</i>		\$104,682 95

<i>Amount brought forward.....</i>	\$104,682 95
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Paid for SUNDRIES:

Total expenditure for the year 1893..	104,682 95
Transferred to Appropriation for Commons.....	1,951 14
	\$106,634 09
Balance undrawn Dec. 31, 1893.....	5,441 89
	\$112,075 98

FIRE DEPARTMENT.

Balance undrawn Jan. 1, 1893.....	\$ 1,949 55
Appropriation.....	110,000 00

\$111,949 55

RECEIPTS.

Received into the Treasury on account of FIRE DEPARTMENT :

From Appropriation for Water Works, discount on bills.....	\$1,138 98
E. S. Hosmer, for cloth, etc...	425 00
Fay Bros. & Hosford, for overdraft	60 00
C. H. Hanson & Co., for pungs,	25 00
J. H. Swett, for overdraft....	10
S. C. & G. H. Smith, for overdraft.....	1 50
Lee, Higginson & Co., on loan,	29,000 00
	<u> </u>
	30,650 58
	<u> </u>
	<u>\$142,600 13</u>

EXPENDITURES.

Paid for SERVICES :

To Edward S. Hosmer, Chief Engineer, salary.....	\$2,000 00	
James F. Norton, First Assistant Engineer and Clerk, salary..	491 67	
George F. Salmon, Assistant Engineer, salary.....	379 16	
Edward Meloy, Assistant Engineer, salary.....	379 16	
H. W. Burton, Assistant Engineer, salary.....	379 16	
Sundry persons, as permanent firemen	75,080 04	
Sundry persons, as call firemen..	18,725 05	
		\$97,434 24

Paid for FUEL :

To Appropriation for Roads and Bridges, for teaming coal...	\$ 1 88	
Appropriation for Paupers, for wood.....	65 01	
Edward Cawley, for coal.....	53 50	
William Kittredge Co, for coal.	309 94	
William E. Livingston, for coal..	1,620 84	
		2,051 17

Paid for HAY, GRAIN, ETC. :

To Ame & Co, for standard food...	\$ 48 60	
J. B. Cover, for bran, corn, etc..	32 99	
James Flint, for carrots.....	15 00	
G. M. Foster, for hay and straw.	1,899 46	
William P. Foye, for oats, shorts, etc.....	436 84	
C. H. Hanson & Co., for oats....	61 91	
Fred W. Jenness, for pasturing horses.....	54 25	
William E. Livingston, for oats, corn, etc.....	1,003 53	
Joseph Marin, for hay.....	192 96	
<i>Amounts carried forward.....</i>	\$3,745 54	\$99,485 41

FIRE DEPARTMENT.

157

Amounts brought forward..... \$3,745 54 \$99,485 41

Paid for HAY, GRAIN, ETC. :

To T. J. McDonald, for oats, shorts, meal, etc.....	3,086 92	
E. S. Sherman & Co., for oats..	92 46	
A. G. Stiles & Co., for oats....	56 79	
E. N. Wood, for oats and bran..	596 61	
		7,578.32

Paid for HORSES, CARRIAGES,
HARNESSES, ETC. :

To Robert Barris, for repairing har- nesses.....	\$26 95	
F. J. Burlingham, for whips....	17 00	
A. L. Butman, for repairing har- nesses.....	35 35	
A. H. Cluer, for repairing har- nesses.....	50 95	
J. C. Donovan, for harness, re- pairing harnesses, etc.....	129 65	
J. S. Dyer & Co., for repairing harness.....	1 40	
H. F. Ebert, for repairing har- nesses, etc.....	144 16	
C. H. Hanson, for robe, brushes, clipping machine, exchange of horses, etc.....	480 30	
M. J. Sullivan, for repairing har- nesses.....	2 50	
George H. Taylor, for repairing harnesses.....	17 30	
Charles Clapp, for exchange of horses.....	250 00	
E. P. Bryant, for repairing car- riages.....	222 56	
Fay Bros. & Hosford, for repair- ing carriages.....	1,604 72	
A. S. Jackson, for chamois skins.	103 00	
Manchester Locomotive Works, for valves and repairing en- gine.....	472 38	
<i>Amounts carried forward</i>	\$3,558 22	\$107,063 73

<i>Amounts brought forward.....</i>	\$3,558 22	\$107,063 73
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Paid for HORSES, CARRIAGES,
HARNESSES, ETC.:

To Sawyer Carriage Co., for repairing carriages.....	794 33	
J. H. Swett, for repairing car- riages.....	92 74	
Peter J. Boland, for shoeing horses.....	54 43	
Cadden & Saunders, for shoeing horses.....	7 75	
Cahill Bros., for shoeing horses..	286 70	
John J. Donnelly, for shoeing horses.....	89 85	
A. R. Kingsbury, for shoeing horses.....	11 50	
M. V. B. Libby, for shoeing horses.....	181 60	
C. H. McGraw, for blacksmithing,	69 20	
A. D. Mitten, for shoeing horses,	74 50	
J. S. Mosher, for blacksmithing..	48 39	
A. Parsons, for blacksmithing...	111 44	
T. J. Reynolds, for shoeing horses.....	65 95	
J. O. Silvester, for blacksmithing,	4 90	
C. C. Thompson, for shoeing horses.....	43 03	
W. M. Thompson, for blacksmith- ing	28 95	
W. H. Ward, for blacksmithing.	27 50	
		5,550 98

Paid for SUNDRIES :

To Appropriation for Roads and Bridges, for halter shanks...	\$ 2 00	
Appropriation for Watering Streets, for assessments....	32 28	
Appropriation for Water Works, for water for 913 hydrants..	10,956 00	
Appropriation for Water Works, for water	464 71	
<i>Amounts carried forward.....</i>	\$11,454 99	\$112,614 71

FIRE DEPARTMENT.

159

Amounts brought forward..... \$11,454 99 \$112,614 71

Paid for SUNDRIES:

To Lowell Electric Light Corp, for power.....	60 01
Lowell Gas Light Co., for gas...	1,453 32
New England Telephone and Telegraph Company, for service, poles, etc.....	110 43
New England Telephone and Telegraph Company, for rent of instruments.....	475 00
Burnham & Davis, for lumber...	81 12
Mark Holmes, Jr., & Son, for lumber	46 78
Lowell House Furnishing Co., for labor.....	25
Marshall & Crosby, for lumber..	2 00
Amasa Pratt & Co., for lumber..	109 01
Charles E. Adams, for hardware,	38 09
Bartlett & Dow, for hardware...	118 29
American Bolt Co., for bolts....	48
J. C. Bennett, for hardware.....	1 25
Boutwell Bros., for iron and steel	17 34
Highland, Nightingale & Co., for files.....	10 90
A. F. Nichols, for castings.....	15 60
H. B. Shattuck & Son, for hardware.....	20 80
Thompson Hardware Co., for hardware.....	113 96
J. J. Adams, for filing saws.....	3 70
O. E. Averill, for blacksmithing.	42 55
H. R. Barker Mfg. Co., for pipe, valves, labor, fittings, etc....	589 30
Bradbury Stone Storage Battery Co., for charging battery....	3 00
T. Costello & Co., for globe and grate.....	1 75
W. W. Carey, for planer and bench.....	192 15
Derby & Morse, for wire, hooks, labor, etc.....	80 20
H. B. Downs, for filing saws....	6 00

Amounts carried forward..... \$15,048 27 \$112,614 71

Amounts brought forward..... \$15,048 27 \$112,614 71

Paid for SUNDRIES :

To Eastern Electric Light and Storage Battery Co., for gongs..	1 72
George W. Fifield, for gears....	2 00
Charles E. Gee, for pulleys.....	9 93
W. B. Glover, for filing saws....	40
Charles T. Haskell, for filing saws	68
S. H. Jones, for pipe, fittings, labor, etc.....	37 71
Joel Knapp & Son, for labor.....	3 05
Lowell Plating Co., for plating..	2 90
Andrew Livingston, for blacksmithing.....	2 50
D. Lovejoy, for springs.....	21 14
A. I. Laughton, for labor and material	20 95
W. A. Mack & Co., for iron, nails, solder, labor, etc.....	268 08
N. E. Gamewell Co., for insulated iron wire, signal boxes, etc..	2,023 93
A. F. Nichols, for castings.....	9 96
Pevey Bros., for castings.....	46 84
Rollins & Son, for hardware, etc.....	19 03
Rice & Co., for wire baskets, cloth, etc.....	53 28
S. C. & G. H. Smith, for screws,	1 50
Scannell & Wholey, for screens, labor, etc.....	56 35
J. W. Stewart, for pipe, lead, labor, etc.....	3 91
Sabourin Bros., for vise.....	3 00
Union Plating Manufacturing Co., for plating.....	13 20
Union Brass Foundry, for castings.....	18 05
H. H. Wilder & Co., for labor, material, etc.....	9 00
C. Zimmer, for key.....	20
Boston Woven Hose & Rubber Co., for hose, pipe, etc.....	303 51

Amounts carried forward..... \$17,981 09 \$112,614 71

Amounts brought forward..... \$17,981 09 \$112,614 71

Paid for SUNDRIES:

To Cornelius Callahan Co., for hose, coupling, etc.....	1,822 05
Cornelius Callahan Co., for Haile Water Tower, \$4,500.00, less freight.....	4,379 00
Boston and Maine Railroad Southern Division, for freight on water tower.....	121 00
Campbell Electrical Supply Co., for electrical supplies.....	43 07
Josiah Gates & Son, for leather, hose, etc.....	46 09
Peter A. Hayden, for oat clean- ers.....	350 00
W. T. Bradley, for mirror.....	8 50
G. C. Braxmar, for insignia.....	62 00
John Cross, for cushion and stretcher	10 00
J. W. Cassidy, for crash, blankets, etc.....	85 09
Charles F. Dow, for pails, blan- kets, chimney, etc.....	8 25
Durant & Rogers, for badges, re- pairing, etc.....	199 25
Goodyear Gossamer Co., for tubing	1 50
L. W. Hawkes & Co., for furni- ture, bedding, etc.....	513 28
E. Hapgood & Son, for mattress- es, excelsior, hair, etc.....	13 20
A. L. Kittredge, for cords, shades, and roller.....	8 38
Alvin Lawrence, for clocks and repairing	23 50
Lowell Rubber Co., for gaskets, cement, etc.....	5 76
Middlesex Company, for cloth....	609 34
Middlesex Steam Laundry for laundering.....	193 04
Edward F. Page & Co. for brooms	42 25
J. F. Puffer & Son, for chairs, furniture, mops, globes, etc.,	213 35

Amounts carried forward..... \$26,738 99 \$112,614 71

Amounts brought forward..... \$26,738 99 \$112,614 71

Paid for SUNDRIES :

To James F. Sargent & Co., for chair braces.....	9 00	
Albert Crowell, for medicine....	7 15	
Charles E. Carter, for medicine..	11 62	
C. B. Coburn & Co., for oil, glass, glue, putty, brushes, lan- terns, etc.....	432 88	
William Clee, for harness dress- ing.....	6 00	
Crowell & Stott, for medicine..	3 52	
A. C. Daniels, for medicine.....	8 00	
Donovan & Co., for flour barrel.	15	
W. A. Dickinson, for soap.....	3 50	
W. H. Gibson, for medicine....	4 00	
Ingalls Manufacturing Co., for soap.....	10 00	
Austin Keith, for medicine	1 70	
J. G. Lesure, for medicine.....	21 00	
A. E. Palmer, for oil.....	1 75	
George P. Palmer, for oil.....	1 25	
Pulsifer Chemical Co., for medi- cine.....	7 00	
Smith & Gould, for lotion.....	6 00	
W. H. Spalding, for shade and fixture	1 88	
Simpson & Rowland, for matches	11 00	
Talbot Dyewood & Chemical Co., for sulphur, saltpetre, carbolic acid, vitriol, etc.....	483 40	
Tweed Liniment Co., for lini- ment.....	8 00	
Darius Whithed, for soap.....	113 76	
Daily News Job Print, for print- ing.....	16 50	
Vox Populi Press, for badges and printing.....	149 25	
J. Merrill & Son, for blank book,	7 50	
E. S. Hosmer, for travelling ex- penses, postage, etc.....	279 63	
<i>Amounts carried forward</i>	\$28,344 43	\$112,614 71

<i>Amounts brought forward.....</i>	\$28,344 43	\$112,614 71
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Paid for SUNDRIES:

To James F. Norton, for services as Chief Engineer.....	76 58
Richardson's Hotel, for refresh- ments.....	117 85
William E. Livingston, for brick, lime and cement.....	5 19
S. S. Page, for mason work.....	1 00
Woodbury & Leighton, for brick,	1 50
S. H. Weaver & Son, for repair- ing roof.....	4 00
A. W. Baker, for professional ser- vices.....	4 00
W. A. Sherman, for professional services.....	49 50
J. H. Sparks, for professional ser- vices.....	80 00
Jesse A. Viles, for professional services.....	112 00
Charles R. Wood, for professional services.....	25 50
E. Godilot, for clipping horses...	6 00
Mrs. A. McKenzie, for storing sleigh.....	5 00
Charles Clapp, for use of horses,	53 44
C. H. Hanson & Co., for use of horses.....	177 00
J. H. Sparks, for use of horse...	6 00
F. E. Stowell, for carriage hire...	71 00
American Express Co., for trans- portation.....	18 10
Lovejoy Paul Express Co., for transportation.....	5 95
New York & Boston Despatch Express Co, for transporta- tion.....	50
Boston & Maine Railroad, for transportation.....	5 31
Boston & Maine Railroad, South- ern Division, for transporta- tion.....	34 05

<i>Amounts carried forward.....</i>	\$29,203 90	\$112,614 71
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<i>Amounts brought forward.....</i>	\$29,203 90	\$112,614 71
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Paid for SUNDRIES :

To Boston & Maine Railroad, Western Division, for transportation.....	34	29,204 24
Total expenditure for the year 1893..		\$141,818 95
Balance undrawn Dec. 31, 1893.....		781 18
		<u>\$142,600 13</u>

SEWERS AND DRAINS.

Appropriation.....	\$20,000 00	
	<u> </u>	\$20,000 00

RECEIPTS.

Received into the Treasury on account of SEWERS AND DRAINS:

From Appropriation for Health, for labor.....	\$12 00	
Appropriation for Water Works, discount on bills.....	1 20	
Edward Cawley, for overdraft,	1 23	
John Callahan, for overdraft...	1 50	
Doherty Bros., for old iron....	11 44	
C. J. Glidden, for 871 square feet of land on Marginal St.	217 75	
William Goodroe, for overdraft,	10 00	
Lowell Cemetery Corp., for stone bases.....	12 00	
Merrimack Manufacturing Co., for catch basins on Tilden and Tremont Streets.....	135 98	
Lee, Higginson & Co., on loan	40,000 00	
Lowell Institution for Savings, on loan.....	50,000 00	
	<u> </u>	\$90,403 10
<i>Amount carried forward.....</i>		\$110,403 10

Amount brought forward..... \$110,403 10

Received for REMOTE DRAIN-
AGE:

From J. Boisvert and Fred Sanborn, Beaver Street.....	\$14 37	
Boston & Maine Railroad, Mid- dlesex Street.....	32 29	
Boston & Maine Railroad, Rail- road Street.....	7 50	
George W. Casey, Willow Street.....	11 20	
Horace B. Coburn, Andover Street.....	30 00	
Mrs. Joseph Davis, Lawrence Street.....	7 50	
George A. Faneuf, Rock Street	8 00	
George W. Fifield, Marginal Street.....	112 50	
Michael Finnegan, Fayette Street.....	8 84	
C. H. Fisher, Middlesex Street	37 50	
Wilfred Frichette, Aiken Avenue.....	25 00	
Foote Bros., Stevens Street...	26 50	
Charles E. Gee, Rock Street..	24 95	
Peter Gendreau, Andrews Street.....	3 00	
D. A. Girard, Lakeview Avenue	57 65	
Samuel Greenwood, Railroad Street.....	13 98	
Dyer Hall, Nichols Street....	20 90	
Samuel N. Harris, Fayette Street.....	7 53	
Gertrude Kimball, Canada Street.....	10 00	
P. Kelly, Davidson Street....	7 50	
Sarah G. Lambert, Pawtucket Street.....	25 00	
J. J. McCarthy, Ames Street.	46 05	
D. J. Murphy, Little Street...	22 50	
J. Oliver, Pawtucket Street...	25 00	
O. Piette, Aiken Avenue.....	25 00	
S. P. Pike, Hildreth Street....	40 42	
<i>Amounts carried forward.....</i>	<u>\$650 68</u>	<u>\$110,403 10</u>

<i>Amounts brought forward.....</i>	\$650 68	\$110,403 10
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Received for REMOTE DRAIN-
AGE:

From John Pilling, Shaffer Street...	15 60	
Mrs. John Rourke, Seventh Avenue	18 44	
Solon W. Stevens, Howard Street	12 92	
Heirs of Isaac Storm, Little Street.....	22 50	
Daniel Swan, East Merrimack Street.....	18 00	
Peter Watson, Charles Street.	12 67	
		750 81

Received for SEWER ASSESS-
MENTS:

AGAWAM STREET.

From Silas W. Fletcher.....	\$151 23
Joseph L. Getchell.....	82 38
George Hardman.....	75 76

BLOSSOM STREET.

Baptist Union Church.....	21 44
Eugene Cornock.....	7 15
Eugene Cornock.....	7 15
Kate B Davis.....	6 43
George Durant.....	10 72
George Durant.....	10 72
James D. Haley.....	15 02
Heirs Peter Howard.....	21 44
Thomas Judge.....	10 72
Daniel J. Murphy.....	11 79
Daniel J. Murphy.....	9 76
Mrs. George F. Robinson....	10 72
Martha R. Shaw.....	7 15

<i>Amounts carried forward.....</i>	\$459 58	\$111,153 91
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<i>Amounts brought forward.....</i>	\$459 58	\$111,153 91
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Received for SEWER ASSESS-
MENTS :

CUMBERLAND ROAD.

From Heirs F. A. Hildreth.....	35 10
Alfred Simard.....	32 12
Patrick O'Brien.....	25 25
William J. Traversey.....	51 39

CANADA STREET.

Sarah Gilman.....	35 16
Alexander McDonald.....	72 25
William E. Livingston.....	17 58
William H. Whitman.....	58 70
William H. Whitman.....	43 45

GATES STREET.

Elizabeth G. Love.....	62 63
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HIGH STREET.

Appropriation for School- houses.....	52 01
Francis Brown.....	50 01
E. A. Smith and F. B. Shedd, Trustees.. ..	177 03
E. A. Smith and F. B. Shedd, Trustees.....	75 01

HOWARD STREET.

George W. Chase.....	29 73
Lemuel Church.....	16 09
George W. Fifield.....	16 09
Louis I. Fletcher.....	32 18
Fred V. Libby.....	20 92
Lowell Highland Club.....	35 40
Augustus C. Sanborn.....	20 43
Stephen A. Scripture.....	24 14

<i>Amounts carried forward.....</i>	<u>\$1,442 25</u>	<u>\$111,153 91</u>
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SEWERS AND DRAINS.

169

Amounts brought forward..... \$1,442 25 \$111,153 91

Received for SEWER ASSESS-
MENTS:

HOWARD STREET.

From Jarvis M Seger.....	24 14
E. A. Smith.....	88 50
Abel Wheeler.....	16 09
Charles W. Wilder.....	175 80
Charles W. Wilder.....	29 86
Charles W. Wilder.....	61 14

LINCOLN STREET.

Simon Brennan.....	15 24
Simon Brennan.....	15 24
Margaret Ferris.....	15 24
Martin Frawley.....	15 24
John Mogan.....	15 24
Sarah L. Crockett.....	16 41
Andrew Sheehan.....	15 24
Catharine Spencer.....	15 24
Ellen Spencer.....	15 24
Ellen Spencer.....	15 24
Bridget T. Sullivan.....	15 24

LONDON STREET.

James Barris.....	12 10
James Barris.....	12 10
Ben F. Dunklee.....	12 10
Patrick H. Foley.....	15 13
Margaret Hawthorne.....	15 13
John Monaghan.....	15 13
John Mountford.....	15 13
Miles Person.....	15 13
Swedish Mission Church.....	12 10

Amounts carried forward..... \$2,130 64 \$111,153 91

Amounts brought forward..... \$2,130 64 \$111,153 91

Received for SEWER ASSESS-
MENTS:

MIDDLESEX STREET.

From Christopher Baron.....	231 94
Charles Clapp.....	62 85
Charles Daggett.....	52 87
Elizabeth Emerson.....	70 50
Francis Jewett.....	263 25
William E. Livingston.....	62 85
William E. Livingston.....	62 85
Lowell & Suburban Street Railway Co.....	623 68
Reuben Maker.....	75 53
Louis T. Montferrand.....	44 43
Louis T. Montferrand.....	48 00
Patrick O'Hearn.....	62 85
Augustus C. Sanborn.....	117 56
Jasper White.....	68 44
Mary Wilcox.....	34 12
Elizabeth E. Boyd.....	52 87
Elizabeth E. Boyd.....	43 15

MOORE STREET.

Albert D. Carter.....	37 39
Estate James Meadowcroft...	128 21
Estate James Meadowcroft...	44 90
First Swedish M. E. Church..	20 54
Mary E. Jockow.....	41 62
Lowell Bleachery.....	82 73
Lowell Bleachery.....	79 46
Lowell Bleachery.....	70 12
Lowell Bleachery.....	39 74
Lowell Bleachery.....	141 97
Lowell Bleachery.....	94 06
Albert Moors.....	36 46
Albert Moors.....	112 64
James E. Potter.....	50 99
A. F. Whidden.....	52 22

Amounts carried forward..... \$5,141 43 111,153 91

Amounts brought forward..... \$5,141 43 \$111,153 91

Received for SEWER ASSESS-
MENTS:

MAPLE AND WEST STREETS.

From Appropriation for School	
Houses	75 50
Patrick Clancy.....	49 22
Patrick Clancy.....	30 00
Gilman G. Cook.....	26 13
Sarah L. Crockett.....	110 82
Michael Duffy.....	17 02
Patrick H. Foley.....	60 00
Patrick J. Maguire.....	36 10
John Malony.....	30 00
John Mogan.....	33 75
N. Y. & N. H. Railroad, Old Colony System.....	693 00
Albert E. Osgood.....	71 25
John Small.....	37 33
Ellen Spencer.....	35 78
James Spencer.....	32 38
Bridget Sullivan.....	33 62
Charles F. Urann.....	37 46

PHILLIPS STREET.

John W. Breen.....	40 99
Richard Commerford.....	37 56
Nellie MacDonald.....	30 65

PERRY STREET.

James Brosnan.....	31 49
Michael Burns.....	31 92
Robert Goulding.....	21 28
E. A. Smith and F. B. Shedd, trustees.....	11 28
E. A. Smith and F. B. Shedd, trustees.....	21 28
E. A. Smith and F. B. Shedd, trustees.....	326 64

<i>Amounts carried forward</i>	\$7,103 88	\$111,153 91
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<i>Amounts brought forward.....</i>	\$7,103 88	\$111,153 91
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Received for SEWER ASSESS-
MENTS :

ROGERS STREET.

From Gilman Kimball.....	77 36
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SHAFFER STREET.

Mary H. Hamilton.....	15 74
Larkin T. Trull.....	16 60

STEVENS STREET.

Nancy A. Dickinson.....	13 11
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WALDEN STREET.

Betsey Gookin.....	29 18
Lena Gookin.....	29 18
Charles F. Taylor.....	29 18
Alden A. Usher.....	32 85

7,347 08

\$118,500 99

EXPENDITURES.

Paid for Labor.....	\$82,282 40
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\$82,282 40

Paid for PIPE, BRICK, CEMENT,
LUMBER, HARDWARE,
ETC.:

To A. P. Bateman, for lumber....	\$ 998 87
Burnham & Davis, for lumber...	547 42

<i>Amounts carried forward.....</i>	\$1,546 29
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\$82,282 40

<i>Amounts brought forward.....</i>	\$1,546 29	\$82,282 40
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Paid for PIPE, BRICK, CEMENT,
L U M B E R, HARDWARE,
E T C. :

To Davis & Sargent, for lumber.....	185 58	
Howe Lumber Co., for lumber...	724 17	
Mark Holmes, Jr. & Son, for lumber.....	30 90	
Warren C. Hamblett, for lumber	633 73	
Amasa Pratt & Co., for sash and blinds.....	5 46	
American Bolt Co., for bolts and nuts.....	2 42	
Boutwell Bros., for iron, steel, etc.	225 95	
Bartlett & Dow, for hardware and tools.....	592 79	
J. C. Bennett, for hardware.....	1 55	
Callahan & Sanborn, for hardware	2 10	
Concord Foundry Co., for grates	37 80	
F. W. Cheney & Co., for tools...	62 61	
Doherty Bros., for castings	811 70	
A. F. Nichols, for castings.....	827 88	
H. B. Shattuck & Son, for hard- ware.....	2 31	
Pevey Bros., for castings.....	192 55	
Joseph Turner, for jackscrews ...	11 00	
Thompson Hardware Co., for hardware.....	4 84	
C. J. Cheney, Jr., for brick.....	4,653 40	
Edward Cawley, for pipe, cement, etc.....	3,484 00	
Connors Bros, for cement and sand	2,242 85	
William E. Livingston, for cement	516 50	
Mullin & Winslow, for sand....	48 00	
Staples Bros, for pipe.....	219 11	
E. A. and A. T. Smith, for con- crete	8 00	
		\$17,073 49
<i>Amount carried forward.....</i>		\$99,355 89

Amount brought forward.....

\$99,355 89

Paid for SUNDRIES:

To Appropriation for Roads and Bridges, for services of Superintendent of Streets, and City Engineer, keeping horse, teaming, etc	\$2,650 68
Appropriation for Watering Streets, for teaming.....	204 09
Appropriation for Water Works, for water.....	452 61
N. E. Tel. and Teleg. Co., for service.....	61 35
H. R. Barker Mfg. Co., for hose and couplings.....	2 50
Buff & Berger, for tripod leveling plate.....	20 00
T. Costello & Co., for brackets and jets.....	18 00
Derby & Morse, for repairing blasting machine, etc.....	12 10
Edson Manufacturing Co., for hose, couplings, diaphragm, etc.....	289 13
Farrell & Conaton, for pipe.....	47
A. Nourbourn, for hoisting jack, screws, etc.....	46 57
Nason B. Parsons, for filing saws,	1 40
Rice & Company, for wire cloth,	3 78
Jerry Ryan, for tin, pipe, solder, labor, etc.....	31 30
C. B. Coburn & Co, for oil, glass, waste, etc.....	56 89
Donovan & Co., for salt, forcite, exploders, etc.....	907 86
Charles F. Dow, for wicks, globes, lanterns, etc.....	10 15
Josiah Gates & Sons, for repairing hose	2 83
T. J. McDonald, for oatmeal and salt	6 10
J. F. Puffer & Son, for globes, buckets, lanterns, etc.....	70 05

Amounts carried forward.....

\$4,847 81

\$99,355 89

<i>Amounts brought forward.....</i>	\$4,847 81	\$99,355 89
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Paid for SUNDRIES :

To E. S. Sherman & Co., for salt...	25
Smith & Goold, for lotion.....	3 00
W. H. Spalding & Co, for ink and paper.....	3 60
Citizen Newspaper Co., for print- ing	3 00
Daily News Co, for advertising,	1 50
Daily News Job Print, for print- ing	32 75
Lowell Sun, for printing.....	6 00
Lowell Daily Sun, for advertising,	3 00
Vox Populi Press, for advertis- ing	6 75
Hooper & Lewis, for blank books,	2 50
Thomas H. Lawler, for station- ery, etc.....	24 40
G. C. Prince & Son, for station- ery, etc.....	4 50
Taylor Bros., for stationery. etc.,	7 06
Boulger & McOsker, for rubber boots	45 00
James E. Gorman, for rubber boots.....	6 00
H. H. Nixon, for rubber boots..	6 00
H. O'Sullivan, for rubber boots..	33 25
Swan & Smith, for rubber boots,	7 00
Wm. A. Winslow, for rubber boots	8 00
P. H. Smith, for repairing rubber boots	8 23
T. M. Bolton, for repairing har- nesses	10 70
J. C. Donovan, for repairing har- nesses.....	13 75
C. H. Hanson & Co, for robes and exchange of horses.....	134 00
H. J. O'Dowd & Co., for whip	75
Sawyer Carriage Co., for repair- ing carriage.....	22 60
Robert E. Crowley, for expenses of Committee.	73 50

<i>Amounts carried forward.....</i>	\$5,314 90	\$99,355 89
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<i>Amounts brought forward.....</i>	\$5,314 90	\$99,355 89
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Paid for SUNDRIES:

George Bowers, for postage, car fares, etc.....	2 68	
Charles J. Glidden, for 11,844.6 square feet of land, and all damages caused by extension of Marginal and Foster Streets.	592 23	
Michael Moran, for damage to property on Chelmsford Street.....	25 00	
J. W. Bennett & Co., for repairing building on Swan Avenue..	3 87	
Charles A. Kendall, for cement and labor.....	22 85	
Baptist Union Church, for rebate of assessment for Remote Drainage	22 50	
Mary N. Brosnahan, for rebate of assessment for Remote Drainage	15 00	
Margaret Ferris, for rebate of assessment for Remote Drainage	22 50	
Charles H. Ricker, for professional services.....	30 00	
Charles Clapp, for exchange of horses.....	225 00	
P. E. McNulty, for carriage hire,	10 00	
J. H. Sparks, for carriage hire...	7 50	
F. E. Stowell, for carriage hire..	19 00	
Charles B. Thompson, for carriage hire.....	5 00	
Frank Dunlap, for teaming.....	179 50	
W. P. Foye, for teaming.....	69 20	
M. J. Sullivan, for teaming.....	62 00	
American Express Co., for transportation	3 90	
Boston & Maine Railroad, Western Division, for transportation.....	80 00	
<i>Amounts carried forward.....</i>	\$6,712 63	\$99,355 89

SEWERS AND DRAINS.

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<i>Amounts brought forward</i>	\$6,712 63	\$99,355 89
Boston & Maine Railroad, Southern Division, for transportation.....	1 87	6,714 50
Total expenditure for the year 1893..		\$106,070 39
Balance undrawn Dec. 31, 1893.....		12,430 60
		<u>\$118,500 99</u>

CENTRALVILLE MAIN SEWER.

Received from Lowell Institution for Savings, on loan.....	\$40,000 00	
	\$40,000 00	\$40,000 00

EXPENDITURES.

Paid for SUNDRIES:

To Sundry persons for labor.....	\$19,333 44	
Appropriation for Roads and Bridges, for services of Superintendent of Streets and City Engineer.....	325 50	
Appropriation for Roads and Bridges, for labor and material.....	160 18	
A. P. Bateman, for lumber.....	464 58	
Burnham & Davis, for lumber...	68 67	
Davis & Sargent, for lumber....	57 60	
W. C. Hamblett, for lumber....	267 00	
Mark Holmes, Jr. & Son, for lumber.....	44 62	
Howe Lumber Co., for lumber...	134 13	
Bartlett & Dow, for hardware and tools.....	207 18	
Boutwell Bros, for iron and steel	116 04	
Doherty Bros., for castings.....	22 08	
Edward Cawley, for pipe, cement and coal.....	800 91	
	\$22,001 93	
Amount carried forward.....	\$22,001 93	

Amount brought forward..... \$22,001 93

Paid for SUNDRIES :

To C. J. Cheney, Jr., for brick.....	1,377 37
C. B. Coburn & Co., for oil, rope, blocks, etc.....	29 63
Donovan & Co., for forcite and exploders.	158 26
Josiah Gates & Sons, for belting	35
Wm. E. Livingston, for coal....	1 25
Charles H. Ricker, for profes- sional services.....	4 00
F. E. Stowell, for teaming.....	30 00

Total expenditure for the year 1893
Balance undrawn Dec. 31, 1893.....

\$23,602 79
16,397 21

\$40,000 00

COMMONS.

Appropriation.....	\$10,000 00	
		\$10,000 00

RECEIPTS.

Received into the Treasury on account of COMMONS:

From Avery Marshall, for rent of lots on South Common.....	\$345 00	
Peter Sheehan, for lawn mowers	10 00	
Lee, Higginson & Co., on loan	1,000 00	
		1,355 00

TRANSFERS.

From Reserved Fund.....	\$2,500 00	
Appropriation for Police.....	1,951 14	
		4,451 14
		\$15,806 14

EXPENDITURES.

Paid for SUNDRIES AT FORT
HILL PARK:

To Sundry persons for labor.....	\$4,027 82	
Bartlett & Dow, for hardware, tools and seed.....	22 43	
Callahan & Sanborn, for tools...	3 94	
<i>Amount carried forward.....</i>	\$4,054 19	

Amount brought forward..... \$4,054 19

Paid for SUNDRIES AT FORT
HILL PARK:

To T. Costello & Co., for hose, dip- pers, labor, etc.....	7 40
A. F. Nichols, for chair-arms....	50 00
Joel Knapp & Son, for repairing lawn mowers.....	5 00
D. McEchren, for sharpening tools	1 50
E. N. Wood, for hay, grain and phosphate.....	56 38
Thomas R. Fahey, for oatmeal, grain, etc.....	38 00
T. D. Hadley, for paint and labor	224 05
J. F. Puffer & Son, for pails and brooms.....	2 15
E. Sheppard & Son, for plants and shrubs.....	89 05
H. W. Tarbell, for trees.....	8 75
James Walsh, for plants and bulbs.....	47 20
A. Whittet & Co., for plants and shrubs.....	83 03
M. F. Gookin, for manure.....	16 50
Eugene W. Puffer, for manure..	22 00
Trustees of Rogers land, for sod	8 50
Redmond Welch, for manure and labor.....	141 75
C. B. Coburn & Co., for oil and cord	2 95
Thomas H. Lawler, for blank books	2 00
Campbell & Hanscom, for adver- tising	3 75
Citizen Newspaper Co., for adver- tising	3 75
Daily News Co., for advertising.	2 81
Lowell Courier Publishing Co, for advertising	3 12
Lowell Daily Sun, for advertising,	2 50
Morning Mail Corp., for advertis- ing.....	2 83

Amount carried forward..... \$4,879 16

Amount brought forward..... \$4,879 16

Paid for SUNDRIES AT FORT
HILL PARK:

Edward Cawley, for teaming....	79 50
Peter Sheehan, for use of horse, etc.....	219 35
F. E. Stowell, for teaming	5 00
James Welch, for teaming.....	30 50

\$5,213 51

Paid for SUNDRIES:

To Sundry persons, for labor.....	\$4,887 76
Appropriation for Roads and Bridges, for labor and mate- rial	122 55
Appropriation for Watering Streets, for assessments.....	234 37
Amos B. Adams, for wooden posts.....	28 63
Burnham & Davis, for lumber...	17 64
Howe Lumber Co., for lumber...	152 17
Ladd & Conant, for carpenter work.....	104 50
H. W. Ladd, for carpenter work.	49 50
J. C. Bennett, for hardware.....	1 95
Bartlett & Dow, for hardware and tools	146 79
Boutwell Bros, for axles and springs	5 50
Callahan & Sanborn, for hardware and tools	174 80
F. W. Cheney & Co., for hard- ware	2 20
A. F. Nichols, for chair arms....	134 00
Thompson Hardware Co, for hardware, etc.....	26 91
John H. Barry, for pipe, fittings and labor.....	112 13
Drury & Green, for pipe, fittings and labor.....	17 45
Charles T. Haskell, for filing saws.....	1 50

Amounts carried forward..... \$6,220 35

\$5,213 51

<i>Amounts brought forward.....</i>	\$6,220 35	\$5,213 51
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Paid for SUNDRIES:

To S. H. Jones, for repairing lawn mowers, etc.....	72 36
M. D. Jones & Co., for fountain..	114 50
John Brady, for setting fountain.	134 30
George D. Dillingno, for base for fountain	18 00
J. H. Abbott, for shoeing horse..	6 45
J. C. Donovan, for use of horse and repairing harnesses.....	163 50
James P. Emerson, for wheels and axles	27 00
Fay Bros. & Hosford, for repairing carriages.....	82 72
E. P. McCoy, for repairing carriages	60 38
H. J. O'Dowd & Co., for harness, sponges, etc.....	60 00
I. O. Ramsdell, for repairing carriages.....	85 50
C. B. Coburn & Co., for cord....	1 40
W. H. Spalding & Co., for paint brushes, etc.....	25 09
Fred W. Jenness, for loam and sod	482 50
William E. Livingston, for cement	18 20
T. R. Fahey, for meal	21 00
C. H. Hanson & Co., for hay, straw, horse, teaming and labor.....	717 05
T. J. McDonald, for oats, seed, fertilizers, etc	538 38
E. N. Wood, for hay, straw, corn and bran.....	88 69
D. J. Donovan, for manure.....	65 00
J. J. Maguire, for manure.....	7 50
John Pratt, for manure.....	32 50
John Brady, for mason work, material, gravel, etc.....	217 88
Thomas H. Lawler, for stationery	1 05

<i>Amounts carried forward.....</i>	\$9,261 30	\$5,213 51
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<i>Amounts brought forward.....</i>	\$9,261 30	\$5,213 51
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Paid for SUNDRIES :

To Samuel M. Chase, for printing..	4 00
Citizen Newspaper Co., for ad- vertising.....	3 00
Campbell & Hanscom, for print- ing and advertising.....	17 00
Daily News Co., for advertising..	3 00
Lowell Courier Pub. Co., for advertising.....	3 00
Lowell Sun, for advertising.....	6 00
Lepine & Co. for advertising....	1 50
Morning Mail Corp., for adver- tising	3 75
Vox Populi Press, for advertising	2 75
T. D. Hadley, for painting.....	174 70
G. W. Kirby, for painting	118 00
J. H. Sparks, for professional ser- vices.....	4 00
M. V. B. Libby, for shoeing horse	6 50
Charles M. Erskine, for use of horse.....	46 00
Avery Marshall, for use of horse, etc.....	338 23
James Pinder, for carriage hire and teaming.....	214 25
John J. Regan, for carriage hire .	10 00
F. E. Stowell, for carriage hire..	6 00
J. H. Sparks, for carriage hire...	3 00
Connors Bros., for cement, loam and teaming	268 65
James A. Cawley, for teaming...	98 00

10,592 63

Total expenditure for the year 1893..

\$15,806 14

PRINTING AND ADVERTISING.

Appropriation.....	\$5,000 00	
	<u> </u>	\$5,000 00
Transferred from Reserved Fund,	\$2,664 99	
	<u> </u>	2,664 99
		<u> </u>
		<u>\$7,664 99</u>

EXPENDITURES.

Paid for SUNDRIES :

To Butterfield Printing and Binding Co.....	\$47 50
Buckland Printing Co.....	21 00
Boston Daily Advertiser.....	31 50
Campbell & Hanscom.....	933 61
Citizen Newspaper Co.....	594 32
Samuel M. Chase.....	73 00
Daily News Co.....	87 27
Daily News Job Print.....	1,226 46
H. F. Glidden.....	3 00
Lowell Courier Publishing Co ...	642 20
Lowell Sun	1,786 11
	<u> </u>
<i>Amount carried forward.....</i>	\$5,445 97

Amount brought forward \$5,445 97

Paid for SUNDRIES :

To	Lepine & Co.....	39 75
	Le National.....	33 86
	L'Etoile	10 24
	B. Lenthier	18 51
	Morning Mail Corporation	170 16
	Sunday Arena.....	2 25
	Vox Populi Press.....	1,077 51
	Lowell Opera House Bill Posting Co	76 00
	A. V. Partridge.....	200 45
	John Carter & Co	572 89
	Daniel F. Lyons.....	5 00
	John Regan.....	1 00
	Frank Richards	1 00
	S. Tompkins	1 00
	Boston & Maine Railroad.....	9 40

Total expenditures for the year 1893.

\$7,664 99

LIGHTING.

Balance undrawn, Jan. 1, 1893.....	\$1,305 34	
Appropriation.....	60,000 00	
	<u>60,000 00</u>	\$61,305 34

RECEIPTS.

Received into the Treasury on account of LIGHTING:

From Appropriation for Water Works for discount on bills	\$1 90	
E. S. Hosmer, for posts and lanterns.....	10 90	
Lowell Electric Light Corp., for lights reported not burning	395 42	
Lowell & Suburban Street Railway Co., for posts, arms and lanterns.....	15 00	
Lee, Higginson & Co., on loan	8,000 00	
	<u>8,423 22</u>	8,423 22
		\$69,728 56

EXPENDITURES.

Paid for LIGHTING PUBLIC BUILDINGS:

To Lowell Electric Light Corp.....	\$987 82	
Lowell Gas Light Co.....	1,117 16	
	<u>2,104 98</u>	\$2,104 98
<i>Amount carried forward</i>		<u>\$2,104 98</u>

Amount brought forward.....

\$2,104 98

Paid for LIGHTING STREETS:

To Sundry persons for labor.....	\$8,715 00
Appropriation for Roads and Bridges, for labor and ma- terial.....	4 34
Appropriation for Watering Streets, for assessments....	13 15
Appropriation for Paupers, for fuel	17 50
Appropriation for Public Build- ings, for labor and material.	3 75
Appropriation for Water Works, for water.....	19 00
Globe Gas Light Co., for lighting	8,609 10
Lowell Gas Light Co., for gas...	6,651 48
Lowell Electric Light Corp., for lighting.....	41,087 47
Lowell Electric Light Corp., for labor and material.....	122 00
Amasa Pratt & Co., for lamp posts	91 00
Charles E. Adams, for hardware, glass, etc.....	35 73
Bartlett & Dow, for hardware and tools.....	7 88
H. R. Barker Mfg. Co., for pipe, fittings, labor, etc.....	102 75
S. H. Jones, for fittings and labor,	12 14
A. I. Laughton, for tin, lead, solder, labor, etc.....	39 54
Pevey Bros., for lamp posts, etc.	215 40
J. W. Stewart, for pipe, tin, solder, labor, etc.....	127 87
Waldo Bros., for burners, etc....	42 00
Brooklyn Varnish Mfg. Co., for enamel	56 37
Crowell & Stott, for carboic acid crystals.....	50
C. B. Coburn & Co., for oil wick- ing, glass, alcohol, etc.....	295 20
Charles F. Dow, for globes.....	39 00
Lawrence Mfg. Co., for waste...	7 50
William E. Livingston, for oats..	19 50
T. J. McDonald, for oats and hay,	130 15

Amounts carried forward.....

\$56,465 32

\$2,104 98

<i>Amounts brought forward.....</i>	\$56,465 32	\$2,104 98
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Paid for LIGHTING STREETS:

To J. F. Puffer & Son, for globes, pitchers, etc.....	49 75	
Simpson & Rowland, for matches.	5 50	
Citizen Newspaper Co., for print- ing	4 75	
Daily News Job Print, for print- ing	2 75	
J. Merrill & Son, for stationery..	3 75	
C. Crevier, for blacksmithing....	3 10	
H. F. Ebert, for whip, repairing harnesses, etc	10 75	
Fay Bros. & Hosford, for repair- ing carriages.....	112 25	
C. H. Hanson & Co., for ex- change of horses and shoeing horses.....	192 00	
A. D. Mitten, for shoeing horse and repairing wagon.....	61 37	
W. A. Sherman, for professional services	7 50	
E. A. and A. T. Smith, for con- crete.	10 50	
Boston & Maine Railroad, for transportation	1 19	
		\$66,930 48
Total expenditure for the year 1893..		\$69,035 46
Balance undrawn, Dec. 31, 1893.....		693 10
		\$69,728 56

PUBLIC BUILDINGS.

Balance undrawn Jan. 1, 1893.....	\$1,725 71
Appropriation.....	15,000 00

\$16,725 71

RECEIPTS.

Received into the Treasury on account of PUBLIC BUILDINGS:

From Reserved Fund, for labor and material	\$1,427 66
Appropriation for Paupers, for labor and material	633 43
Appropriation for City Cemeteries, for labor and material.....	2 57
New Buildings at City Farm, Account, for labor and material	31 21
Appropriation for Lighting, for labor and material.....	8 09
Appropriation for Library, for labor and material	12 15
Appropriation for Health, for labor and material	19 36

<i>Amounts carried forward</i>	\$2,134 47
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\$16,725 71

PUBLIC BUILDINGS.

191

<i>Amounts brought forward.....</i>	\$2,134 47	\$16,725 71
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Received into the Treasury on account of PUBLIC BUILDINGS:

From Appropriation for Water Works, for labor and material and discount on bills.....	413 36	
Appropriation for Driven Well Plant, for labor and material.....	678 47	
Richard Bray, for repairing furniture and sale of old boiler	16 50	
Boutwell Bros. for rent of land on Middle street to October, 1893.....	100 00	
James K. Fellows, for rent of land	36 00	
Thomas Haworth, Agent, for rent of land.....	5 50	
Thompson Hardware Co, for overdraft	1 30	
		\$3,385 60
		\$20,111 31
Transferred from Reserved Fund		400 00
		\$20,511 31

EXPENDITURES.

Paid SUPERINTENDENT OF PUBLIC BUILDINGS:

To Richard Bray, salary.....	\$1,800 00	
		\$1,800 00
Paid sundry persons for labor.....	\$6,937 98	
		6,937 98
<i>Amount carried forward</i>		\$8,737 98

Amount brought forward..... \$8,737 98

Paid for LUMBER, HARD-
WARE, ETC.:

To J. W. Bennett & Co., for lumber and hardware.....	\$287 26	
A. L. Brooks & Co, for lumber..	9 90	
Burnham & Davis, for lumber..	890 63	
Howe Lumber Co., for lumber...	732 95	
Mark Holmes, Jr. & Son, for lum- ber.....	1 50	
Amasa Pratt & Co., for lumber..	549 25	
American Bolt Co., for bolts, labor, etc.....	20 86	
Bartlett & Dow, for hardware...	391 96	
Boutwell Bros., for hardware....	1 80	
F. W. Cheney & Co., for hard- ware.....	39 00	
W. L. Lockhart, for hardware..	43 20	
Sabourin Bros, for vises.....	6 00	
Thompson Hardware Co., for hardware.	111 21	
Union Brass Foundry, for brass	25 30	
		\$3,110 82

Paid for SUNDRIES :

To Appropriation for Roads and Bridges, for sidewalk assess- ment, Lawrence Street.....	\$71 10	
Appropriation for Watering Streets, for assessments....	4 42	
Appropriation for Paupers, for repairing rifle range.....	397 66	
Appropriation for Water Works, for water.....	17 00	
Lowell Gas Light Co., for meter connection.....	1 00	
Lowell Electric Light Corp., for power.....	125 01	
N. E. Tel. & Teleg. Co., for ser- vice.....	95 45	
W. U. Tel. Co, for service.....	50	
Postal Tel. Cable Co., for service	50	
<i>Amounts carried forward</i>	\$712 64	\$11,848 80

<i>Amounts brought forward.....</i>	\$712 64	\$11,848 80
Paid for SUNDRIES :		
To O. E. Averill, for blacksmithing	10 20	
H. R. Barker Manufacturing Co., for pipe, fittings, labor, etc..	427 83	
John H. Barry, for pipe, fittings, etc.....	80 44	
T. Costello & Co., for pipe, fit- tings, valve, etc.....	265 44	
W. W. Carey, for pulleys.....	4 19	
Chelmsford Foundry Co., for gutters.....	13 50	
Cornelius Callahan Co., for stall floors.....	36 00	
Drury & Green, for pipe, fittings, labor, etc.....	392 16	
Derby & Morse, for labor and material.....	10 50	
Farrell & Conaton, for pipe, fit- tings, labor, etc.....	433 93	
E. L. Hewes & Co., for bowl and setting.....	2 00	
S. H. Jones, for pipe, fittings, labor, etc.....	72 07	
Joel Knapp & Son, for labor and material.....	8 30	
A. I. Laughton, for iron and labor.....	6 00	
W. A. Mack & Co., for solder and labor.....	19 32	
Rice & Co., for wire cloth.....	5 75	
E. E. Sargent, for electric bells..	10 00	
Scannell & Wholey, for boilers, inspecting boilers, etc.....	660 03	
Scott & O'Day, for plumbing....	114 46	
N. J. Wier & Co., for pipe, tin and labor.....	22 14	
H. H. Wilder & Co., for solder, labor, etc.....	46 73	
C. Zimmer, for repairing tape measure.....	75	
C. B. Coburn & Co., for waste, glue, brushes, ammonia, paint, etc.....	158 28	
<i>Amounts carried forward.....</i>	<u>\$3,512 66</u>	<u>\$11,848 80</u>

<i>Amounts brought forward.....</i>	\$3,512 66	\$11,848 80
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Paid for SUNDRIES:

To Carleton & Hovey, for oxalic acid.....	15
J. W. Cassidy, for cloth	56 19
James J. Gallagher, for lighters..	6 50
Goodale & Co., for liniment	1 30
Michael Gookin, for excelsior....	6 18
A. L. Kittredge, for oil, lead, paint, varnish, etc.....	747 60
William L. Lockhart, for trimmings.....	150 88
O'Donnell & Gilbride, for drilling	3 52
John Ryan & Co., for rags.....	1 00
W. H. Spalding & Co., for oil glass, putty, shellac, etc	305 96
Henry F. Whiting, for belting...	5 75
John Welch, for desks and chairs	180 00
Thomas H. Lawler, for stationery	10 15
Lyon Platinum Pen Co., for pens	3 00
G. C. Prince & Son, for stationery	7 50
G. F. White & Co., for mucilage bulbs.....	1 00
Daily News Job Print, for advertising....	3 75
Davis & Raynes, for drawings...	50 00
Coburn & Sherman, for insurance	8 75
H. C. Church & Son, for insurance	7 50
Thomas C. Lee, for insurance....	8 13
E. M. Tucke, for insurance.....	8 75
Thomas F. Gilligan, for slating..	65 00
Philip Ginty, for zinc and labor..	9 94
Edward Cawley, for brick, sand and cement.....	65 85
William E. Livingston, for coal, brick, lime, cement and gravel	111 96
Bennett & Conlon, for mason work and material.....	15 83
Coburn & Crosby, for mason work and material.....	94 81

<i>Amounts carried forward.....</i>	\$5,449 61	\$11,848 80
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<i>Amounts brought forward</i>	\$5,449 61	\$11,848 80
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Paid for SUNDRIES:

To Walker & Vaughn, for mason work and material.....	260 15
Walsh & Meers, for mason work and material.....	2 16
J. H. Walker, for mason work and material.....	216 65
J. W. Bennett & Co., for tarred paper, zinc and roofing.....	1,060 66
P. B. Quinn, for raising bell and labor.....	73 90
Charles Runels, for stone and labor.....	50 91
Robert Barris, for repairing harness, blankets, etc.....	6 35
T. M. Bolton, for repairing harnesses, etc.....	25 80
J. C. Donovan, for halter and repairing harnesses.....	6 25
C. H. Hanson, Jr., for repairing harnesses	2 75
C. H. Hanson & Co., for whip ...	2 00
E. P. Bryant, for repairing carriages	9 75
Beard & McCoy, for repairing carriages	32 39
Thomas Clark, for repairing carriage	1 55
Fay Bro.'s & Hosford, for repairing carriage.....	18 32
M. R. Histen, for repairing carriage.....	10 59
B. W. Johnson, for sleigh.....	35 00
McCoy & Co., for repairing carriages	10 30
H. J. O'Dowd & Co., for carriages	160 50
Union Carriage Shop, for repairing carriages	36 68
Cahill Bro.'s, for shoeing horses .	26 90
T. J. Reynolds, for shoeing horses.....	79 65

<i>Amounts carried forward</i>	<u>\$7,578 82</u>	<u>\$11,848 80</u>
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Amounts brought forward..... \$7,578 82 \$11,848 80

Paid for SUNDRIES:

To Fred Arlin, for clipping horse...	3 00
A. H. McCann, for professional services.....	9 00
Charles H. Ricker, for professional services	50 00
Lulu F. Lyon, for typewriting...	3 80
Richard Bray, for expenses of committee, etc.....	69 90
Richardson's Hotel, for refreshments	33 25
Waverly House, for refreshments	9 25
J. A. Chase, for carriage hire....	10 00
P. H. Heelon, for keeping horses.	544 00
P. H. Heelon, for carriage hire...	49 00
J. H. Sparks, for carriage hire...	24 00
D. F. Lyon, for teaming.....	10 00
Daniel McCarthy, for teaming...	4 00
A. N. Stevens, for teaming.....	6 50
T. G. Little, for teaming.....	5 00
William Roberts, for teaming ...	4 00
- George E. Stanley, for transportation	3 55
American Express Co., for transportation	4 30
Lovejoy-Paul Express Co., for transportation	1 25
New York & Boston Des. Ex. Co., for transportation.....	1 00
Boston & Maine Railroad, for transportation	1 93
Boston & Maine Railroad, Western Division, for tickets	60 00

8,485 55

Total expenditure for the year 1893..

\$20,334 35

Balance undrawn Dec. 31, 1893.....

176 96

\$20,511 31

CITY HALL AND MEMORIAL BUILDING.

Balance undrawn Jan. 1, 1893.....	\$153,953 30	
DICKINSON	<u> </u>	\$153,953 30
Received from Appropriation for Water Works, discount on bill.....	\$1 00	
	<u> </u>	1 00
		<u><u>\$153,954 30</u></u>

EXPENDITURES.

Paid on account of CITY HALL:

To Sundry persons for labor.....	\$819 75
Appropriation for Roads and Bridges, for services of en- gineers.	24 17
Appropriation for Police, for ser- vices of officers.....	118 25
Appropriation for Water Works, for water.....	10 00
Merrill & Cutler, for professional services.....	2,268 68
Merrill & Cutler, for labor and material.....	112 02
Builders' Iron Foundry, for iron work.....	4,736 00
Boston Blower Co., for heating and ventilating apparatus...	600 00
H. R. Barker Manufacturing Co., for boiler fire service.....	335 00
	<u> </u>
<i>Amount carried forward</i>	<u>\$9,023 87</u>

Amount brought forward..... \$9,023 87

Paid on account of CITY HALL:

To H. R. Barker Manufacturing Co., for pipe, fittings, labor, etc..	406 02
Cape Ann Granite Co., for stone	2,000 00
F. T. Coughlan, for freestone tablets and mantle.....	908 50
T. Costello & Co., for pipe, fittings, labor, etc.....	27 50
Dean Steam Pump Co., for brass plungers and labor.....	20 05
Derby & Morse, for electric wir- ing, fittings, labor, etc.....	997 66
Derby & Morse, for electrical decorations.	334 00
Eastern Electric Light & Storage Battery Co., for speaking tubes, electric bells, etc.....	418 00
C. F. Foss & Co, for stone and brick work	16,402 00
C. F. Foss & Co., for re-setting steps, labor etc.....	703 69
C. F. Foss & Co., for whitewash- ing	262 00
Farrell & Conaton, for plumbing.	2,440 62
Farrell & Conaton, for changing boiler, labor, etc.....	620 08
Graves Elevator Co, for elevator,	1,416 67
L. Haberstroh, for painting and decorating	1,928 00
Charles E. Hall & Co., for marble tablets	266 75
D. W. Horne & Son, for coal...	845 51
Fred H. Holton & Co., for chang- ing final on tower.....	150 00
A. L. Kittredge, for painting....	249 53
Maine & New Hampshire Granite Co., for cutting granite.....	26 00
W. A. Mack & Co., for copper and labor.....	36 68
P. O'Hearn, for balance due on contract for foundation and teaming	352 65
<i>Amount carried forward.....</i>	<u>\$39,835 78</u>

Amount brought forward..... \$39,835 78

Paid on account of CITY HALL:

To Amasa Pratt & Co., for lumber..	12 00
Charles Runels, for changing steps	2,012 62
W. H. Wiggin, for carpenter work, etc.....	29,727 52
H. H. Wilder & Co., for ash hods	41 25
Bartlett & Dow, for hardware, etc.	24 00
Thompson Hardware Co., for hardware	1,710 75
C. B. Coburn & Co., for oil, waste, lanterns, etc.....	80 98
Thomas H. Lawler, for stationery	18 75
Lowell Gas Light Co., for gas...	135 02
Robina J. Dickson, for typewrit- ing	7 00
F. E. Rollins, for typewriting ...	3 95
George Runels, for traveling ex- penses.....	18 00
John A. Hunt, for repairing roof.	2 00
William Hannafor, for labor on elevator	2 50
William Kenefick, for labor on elevator	2 50
Spencer & Co., for lettering tablets	30 00
E. Sheppard & Son, for decora- tions	150 00
U. S. Bunting Co., for flag.....	13 20
Prentiss Webster, for postage, traveling expenses, etc.....	138 50
J. R. Whipple & Co., for refresh- ments	20 50
John McCaffery, for carriage hire.....	9 00
F. E. Stowell, for carriage hire ..	3 00
J. H. Sparks, for carriage hire ...	1 00
Ames Manufacturing Co., for tab- lets and lettering	347 43
Adams & Co., for shades, fixtures and labor.....	694 87

Amount carried forward..... \$75,042 12

Amount brought forward..... \$75,042 12

Paid on account of CITY HALL:

To Bernard & Frank, for cuspidores and towel racks	405 33
Conant Bros. & Bragg Co, for mirrors.....	100 25
George E. Crawley, for and- irons, etc	110 00
Codman & Shurtlef, for bracket and condenser.....	13 00
T. Costello & Co., for tin boxes ..	122 50
Derby, Kilmer & Pond Desk Co., for desks	3,807 25
N Davis Co, for water coolers..	66 00
Fenton Metallic Mfg. Co., for safe fixtures.....	3,777 00
French & Puffer, for baskets	40 50
Abram French Co., for soap dishes	4 25
Goodyear Gossamer Co., for rub- ber mats, hose, pipe, etc.....	366 28
L. C. Hall, for ladders	2 50
Warren W. Herman Co., for paper	9 00
Harwood Manufacturing Co., for settees	100 00
Charles E. Hall, for onyx gavel blocks	10 00
M. D. Jones & Co., for umbrella stands.....	70 40
Alvin Lawrence, for clocks and labor.....	361 50
Marshall & Crosby, for furniture.	2,651 50
O'Donnell & Gilbride, for furni- ture, carpets, draperies, etc..	8,588 89
G. C. Prince & Son, for frames..	2 40
Paine Furniture Co., for furniture	1,129 50
W. H. Spalding & Co., for hooks, cord and labor.....	16 66
Seth Thomas Clock Co., for clock in tower.....	1,442 25
C. I. Taylor & Co, for furniture	3,491 59

Amount carried forward..... \$101,730 67

Amount brought forward..... \$101,730 67

Paid on account of CITY HALL :

To N. W. Turner & Co., for fixtures	5,272 98	
John Welch, for repairing furniture	755 28	
M. R. Warren, for inkstands....	14 27	
Samuel Ward Co., for inkstands	57 60	
A. A. Haggett, for sundry expenses.....	15 70	
Stickney Transfer Co., for transportation.	3 83	
Boston & Maine Railroad, Southern Division, for transportation.....	12 00	
		*\$107,862 33

Paid on account of MEMORIAL BUILDING :

To Sundry persons for labor.....	345 00	
Appropriation for Roads and Bridges, for loam.....	117 00	
F. W. Stickney, for labor and material.....	167 10	
F. W. Stickney, for professional services..	1,065 00	
Ames Mfg. Co., for bronze tablet.	266 37	
Bowker, Torrey & Co., for marble base....	12 50	
Boston Blower Co., for heating and ventilating apparatus...	500 00	
J. C. Bennett, for hardware, etc.,	4 93	
T. Costello & Co., for gas fixtures	3,162 04	
C. B. Coburn & Co., for glass and labor.....	315 25	
Chelms'ord Foundry Co., for iron work.....	96 88	
Derby & Morse, for labor and material.....	38 40	
Eastern Electric Light & Storage Battery Co., for electric wiring, etc.....	602 94	
<i>Amounts carried forward</i>	\$6,693 41	\$107,862 33

* To this amount add the sum of \$266,903.34, expended previous to Jan. 1, 1893, making total cost of building and furniture to Jan. 1, 1894, \$374,765.67.

<i>Amounts brought forward.....</i>	\$6,693 41	\$107,862 33
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Paid on account of MEMORIAL
BUILDING:

To Farrell & Conaton, for plumbing.	188 14
C. F. Foss & Co., for mason work	787 60
L. Haberstroh & Son, for interior decorations	2,592 00
S. H. Jones, for pipe, fittings and labor.....	178 39
A. L. Kittiedge, for painting....	1,237 50
Lowell Electric Light Corp., for labor.....	17 75
D. M. Prescott, for lathing and plastering.....	676 00
Charles Runels, for labor	4 62
Redding, Baird & Co., for stained glass	1,500 00
W. H. Spalding & Co, for paint- ing and finishing book racks.	559 00
Thompson Hardware Co., for hardware	535 10
J. B. Varnum, for carpenter work	6,938 19
A. B. & W. T. Westervelt, for book racks.....	3,764 46
James Walsh, for labor.....	24 00
Robina J. Dickson, for type- writing.....	7 00
D. W. Horne & Son, for coal...	845 49
Lowell Gas Light Co., for meter connection and gas.....	70 03
Citizen Newspaper Co., for ad- vertising	6 00
Campbell & Hanscom, for adver- tising	11 50
Morning Mail Corp., for adver- tising	12 50
F. E. Stowell, for carriage hire...	2 00
B. G. Brown, for teaming.....	41 49
Adams & Co., for chairs.....	264 00
Henry K. Barnes, for desk.....	43 40

<i>Amounts carried forward.....</i>	<u>\$26,949 57</u>	<u>\$107,862 33</u>
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Amounts brought forward..... \$26,949 57 \$107,862 33

Paid on account of MEMORIAL
BUILDING :

To R. J. Colcord, for book case.....	53 00	
F. J. Farr, for card cases	165 00	
M. F. Gookin, for chairs.....	312 00	
O'Donnell & Gilbride, for chairs, shades, fixtures, etc.	2,207 51	
C. I. Taylor & Co, for furniture.	864 00	
United States Cord Co., for cord	1 63	
		*30,552 71
Total expenditure for the year 1893..		\$138,415 04
Balance undrawn Dec. 31, 1893.....		15,539 26
		\$153,954 30

*To this amount add the sum of \$139,234.57 expended previous to Jan. 1. 1895; making total cost of building and furnishings to Dec. 31, 1893, \$169,787.28.

LIBRARY.

Balance undrawn Jan. 1, 1893.....	\$7,232 86	
Appropriation.....	11,000 00	
		\$18,232 86

RECEIPTS.

From Appropriation for Water Works, for discount on bill.....	\$ 1 18	
County of Middlesex, on account of dog tax of 1892.....	3,359 29	
Fred A. Chase, for fines, cata- logues, etc.....	410 19	
		3,770 66
		\$22,003 52

EXPENDITURES.

Paid LIBRARIAN AND AS- SISTANTS:

To Fred A. Chase, salary	\$1,500 00	
Sundry persons, for labor.....	5,379 00	
		\$6,879 10
<i>Amount carried forward.....</i>		
		\$6,879 10

Amount brought forward

\$6,879 10

Paid for BOOKS AND PERIODICALS:

To American Library Association....	\$ 6 50
D. Appleton & Co.....	12 00
Biblier Publishing Co.....	6 50
Boston Book Co.....	2 00
W. B. Clarke & Co.....	2,474 81
Fred A. Chase.....	395 50
Dodd, Mead & Co.....	7 00
Egypt Exploration Fund.....	5 00
Estes & Lauriat	2 50
Essex Institute.....	2 35
Houghton, Mifflin & Co.....	29 50
Hessling & Spielmeyer.....	2 70
Charles W. Johnson.....	3 50
Walter Kimball & Co.....	30 00
Leonard & Co.....	15 28
W. H. Lowdermilk & Co.....	10 00
Library Bureau.....	33 35
Little, Brown & Co.....	13 09
George E. Littlefield	19 45
Charles Littlefield & Co.....	19 86
Charles F. Libbie & Co.....	11 27
Thomas H. Lawler.....	11 65
Mercantile Library Association..	3 70
Offices Publishers' Weekly.....	11 88
Pedagogical Seminary.....	8 00
G. C. Prince & Son.....	605 62
P. B. Sanford.....	7 30
William H. Pierce & Co.....	290 00
B F. Stevens.....	1,384 79
Carl Schoenhof.....	58 10
Sampson, Murdock & Co.....	11 00
Ticknor & Co.....	4 00
J. G. Roberts & Co.....	21 00
S. Raymond Roberts, Treasurer	30 00
Arena Newspaper Co.....	1 00
Citizen Newspaper Co.....	5 00
Lepine & Co.....	4 00
Lowell Daily Courier.....	6 00
Morning Mail Corp.....	12 00
Tribune Co.....	6 00

Amounts carried forward

\$5,583 20

\$6,879 10

<i>Amounts brought forward.....</i>	\$5,583 20	\$6,879 10
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Paid for BOOKS AND PERIODICALS :

The Spirit of the Times.....	1 90
Stone & Downer, for freight, wharfage and cartage of books.....	30 93

5,616 03

Paid for SUNDRIES :

To Appropriation for Roads and Bridges, for teaming.....	\$170 33
Appropriation for Watering Streets, for assessments.....	8 65
Appropriation for Public Build- ings, for labor and material	22 15
Appropriation for Water Works, for water.....	11 88
Lowell Gas Light Co., for gas...	166 44
Lowell Electric Light Corp., for lights....	1,262 80
N. E. Tel. & Teleg Co., for ser- vice.....	45 77
Fred A. Chase, for sundry ex- penses.....	262 88
Walter H. Gilman, for launder- ing	4 16
J. G. Roberts & Co., for launder- ing	24 30
Bachelor, Dumas & Co., for binding, etc.....	585 09
Thomas H. Lawler, for stationery	27 36
Library Bureau, for magazine rack	18 00
Morgan, Crossman & Co., for figures	1 56
F. Blanche Hard, for typewriting	2 42
Citizen Newspaper Co., for print- ing and advertising.....	15 50
Campbell & Hanscom, for adver- tising	19 65

<i>Amounts carried forward.....</i>	\$2,648 99	\$12,495 13
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<i>Amounts brought forward.....</i>	\$2,648 99	\$12,495 13
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Paid for SUNDRIES :

To Lowell Courier Pub. Co., for advertising.....	66 75
Lowell Daily Sun, for advertising	1 50
Morning Mail Corp., for advertising	1 82
Vox Populi Press, for printing...	21 00
American Library Association, for membership fee.....	5 00
James R. Bailey, for paper, cutter, etc	121 81
J. M. Fellows, for stamp.....	60
Charles Littlefield & Co., for press board	70 85
National Binder Co., for binders.	2 75
P. F. Van Everen, for numbers..	18 54
H. R. Barker Manufacturing Co., for fittings, labor, etc.....	8 23
T. Costello & Co., for globe, fixtures, etc.....	11 50
J. H. Cocker, for repairing gas fixtures, etc.....	15 11
Derby & Morse, for shade holders, reflectors, etc.....	30 82
Eastern Electric Light & Storage Battery Co., for labor and material on electrical apparatus.....	75 00
H. B. Shattuck & Son, for hardware, ribbon, etc.....	17 82
Thompson Hardware Co., for hardware, etc.....	36 53
C. Zimmer, for key.....	50
Keeler & Co., for umbrella stands	18 00
Lowell House Furnishing Co., for blocks.....	8 00
Amasa Pratt & Co., for lumber..	1 60
Adams & Co., for glass.....	2 50
C. B. Coburn & Co., for glue, cord, dusters, lanterns, etc..	32 07
P. P. Caproni & Bro., for stationery.....	334 15

<i>Amounts carried forward.....</i>	<u>\$3,551 44</u>	<u>\$12,495 13</u>
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<i>Amounts brought forward.....</i>	\$3,551 44	\$12,495 13
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Paid for SUNDRIES:

To Eagle Chemical Co., for powder	25 00	
Fairbanks, Morse & Co., for truck	22 50	
Foster Bros., for picture mats...	4 25	
Goodyear Gossamer Co., for rubber mats.....	36 50	
J. B. Goodwin, for screens.....	56 20	
A. N. Harmon & Co., for frames	178 37	
Lowell Fly Paper Co., for mender	14 25	
John McAskie, for labor.....	1 50	
Morgan, Crossman & Co., for stamp pads.....	70	
S. H. Redmond, for signs.....	3 90	
W. H. Spalding & Co., for paste and ink.....	3 25	
C. I. Taylor & Co., for furniture, etc.....	251 39	
J. B. Varnum, for hardware and labor.....	3 10	
John H. Pray, Sons & Co., for mat.....	5 25	
Ayer Home, for rent.....	375 00	
Ada E. Buxton, for rent and heating.....	66 64	
Arthur H. Hosford, for rent and water....	1,001 84	
Irvine Block, for rent.....	90 00	
George W. Bagley, for labor and material.....	18 74	
A. L. Brooks & Co., for moulding	1 60	
George E. Stanley, for transportation	10 94	
Boston & Maine Railroad, for transportation	1 35	
		5,726 71
Total expenditure for the year 1893..		\$18,221 84
Balance undrawn Dec. 31, 1893.....		3,781 68
		\$22,003 52

HEALTH.

Balance undrawn Jan. 1, 1893.....	\$	868 07	
Appropriation.....		25,000 00	
			\$25,868 07

RECEIPTS.

Received into the Treasury on
account of HEALTH:

From Appropriation for Water Works, discount on bill.....	\$	11 15	
H. H. Knapp, for sale of manure		52 00	
Lee, Higginson & Co., on loan.		12,000 00	
			12,063 15
			\$37,931 22
Transferred from Reserved Fund....			12,000 00
			\$49,931 22

EXPENDITURES.

Paid for SERVICES:

To Charles R. Costello, salary	\$	58 22	
James Bayles, salary		541 78	
James B. Field, salary.....		600 00	
Sundry persons, for labor.....		30,247 66	
			\$31,447 66
<i>Amount carried forward.....</i>			\$31,447 66

Amount brought forward.....

\$31,447 66

Paid for HAY, GRAIN, ETC.:

To H. P. Beals, for hay.....	\$175 35
A. W. Derbyshire & Co, for carrots	14 00
John Donovan, for hay.....	53 95
Fred A. Fox, for hay.....	163 81
C. A. Hamblett, for hay	47 24
C. H. Hanson & Co., for hay and straw	130 92
George G. Kelly, for hay.....	193 02
William E. Livingston, for corn, shorts, oats, etc.....	246 42
T. J. McDonald, for hay, grain, etc.....	823 11
Joseph Miller, for hay and grain.	248 28
A. G. Stiles & Co., for corn, meal, etc.....	877 28
E. S. Sherman & Co., for corn, meal, etc.....	146 42
E. N. Wood, for oats,.....	132 00

 3,251 80
Paid for HORSES, CARRIAGES,
HARNESSES, ETC.:

To Appropriation for Roads and Bridges, for shoeing horse, re- pairing wagons, etc.....	\$609 26
F. A. Bates, for horse, harness, wagon and pung.....	190 00
Charles Clapp, for horses.....	450 00
C. H. Hanson & Co., for horses,	1,000 00
C. H. Hanson & Co, for collars, shoeing, etc.....	111 74
T. M. Bolton, for harnesses and repairing	748 15
H. F. Ebert, for harnesses and re- pairing	86 95
Fay Bros. & Hosford, for repair- ing wagon	3 40
M. V. B. Libbey, for shoeing horse	1 10
E. H. Morse, for sleigh and re- pairing	87 50

Amounts carried forward.....

 \$3,288 10

 \$34,699 46

<i>Amounts brought forward.....</i>	\$3,288 10	\$34,699 46
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Paid for HORSES, CARRIAGES,
HARNESSES, ETC.:

To J. H. Swett, for wagons, repairing, etc.....	1,091 19	
W. B. Tyrrell, for lettering carts,	6 00	
Sawyer Carriage Co., for exchange and repair of wagons	213 41	
Converse Bros., for shoeing.....	1 00	
C. C. Thompson, for shoeing....	12 40	
		\$4,612 10

Paid for SUNDRIES:

To Appropriation for Police, for services of officers.....	\$5 50
Appropriation for Sewers and Drains, for labor.....	12 00
Appropriation for Public Buildings, for labor and material	19 36
Appropriation for Water Works, for water	118 91
Lowell Gas Light Co., for gas and coke	84 18
N. E. Telephone & Telegraph Co., for service.....	200 50
Otis Allen & Son, for cases	2 00
Burnham & Davis, for lumber...	518 42
Mark Holmes, Jr. & Son, for lumber and labor.....	12 10
Howe Lumber Co., for lumber..	30 84
William Kelly & Son, for sash..	4 20
Charles E. Adams, for hardware	75 19
Bartlett & Dow, for hardware..	182 25
Boutwell Bros., for hardware....	104 79
H. R. Barker Manufacturing Co., for pipe, fittings, solder and labor.....	142 83
H. C. Castle, for hardware, etc..	5 55
Coke & Co., for repairing engine	6 00
T. Costello & Co., for plumbing, pipe, fittings, etc.....	366 44

<i>Amounts carried forward.....</i>	\$1,891 06	\$39,311 56
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<i>Amounts carried forward.....</i>	\$1,891 06	\$39,311 56
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Paid for SUNDRIES :

To Drury & Green, for plumbing, etc.....	29 43
Farrell & Conaton, for plumbing, etc.....	47 08
Charles T. Haskell, for keys and filing saws.....	3 42
W. A. Mack & Co., for pans and drainer.....	1 20
Rice & Co., for wire cloth.....	16 30
Scannell & Wholey, for spark ar- restor, labor, etc.....	265 32
H. B. Shattuck & Son, for hard- ware.....	75
Thompson Hardware Co., for hardware.....	2 47
H. H. Wilder & Co., for pails, watering pots, labor, etc....	62 12
C. Zimmer, for revolver, car- tridges, etc.....	17 85
H. M. Alexander & Co., for vac- cine points.....	42 85
American Sanitary Association, for purifying powder.....	6 40
F. and E. Bailey & Co., for vac- cine points, etc.....	12 72
F. H. Butler & Co., for hoof com- pound.....	5 00
C. F. Blanchard, for medicine...	3 15
Carleton & Hovey, for medicine..	4 65
Charles E. Carter, for medicine..	19 65
Ellingwood & Co., for elatol powder.....	18 28
C. B. Coburn & Co., for oil, grease, lime wicks, etc.....	1,235 59
A. L. Kittredge, for paper, pen- cils, brushes, labor, etc.....	13 20
H. C. McOsker, for glass and labor.....	2 50
Orrin B. Randlett, for soap, soap powder, matches, etc.....	32 45
Smith & Goold, for lotion.....	6 00

<i>Amounts carried forward.....</i>	<u>\$3,739 04</u>	<u>\$39,311 56</u>
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<i>Amounts brought forward.....</i>	\$3,739 04	\$39,311 56
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Paid for SUNDRIES :

To W. H. Spalding & Co., for paint .	5 03
L. G. Stone, for hoof stuffing....	4 00
Adams & Co., for linoleum, furni- ture, etc.....	72 25
Bennett & Conlon, for labor.....	7 89
John Cross, for canvass covers, repairing flāgs, etc.....	26 50
J. J. Cluin, for badges.....	3 00
Charles F. Dow, for tubs, brackets, chimneys, reflectors, etc....	13 20
Goodyear Gossamer Co., for boots, slippers, rubber bands, etc.....	24 75
J. F. Puffer & Son, for jugs and furniture.....	8 30
A. G. Pollard & Co., for blankets and flannel.....	11 52
H. O'Sullivan, for boots.....	6 00
J. H. Walker, for mason work and material.....	20 50
Conners Bros., for coal, labor and rent of land.....	2,546 53
Edward Cawley, for coal.....	21 76
James A. Cawley, for coal.....	14 50
Daniel Gage, for wood.....	90 12
Daniel Gage, for ice.....	6 64
William E. Livingston, for coal.	12 00
Fiske, Homes & Co., for brick...	48 66
Campbell & Hanscom, for printing and advertising.....	26 62
Citizen Newspaper Co., for blank books, printing and adver- tising.....	347 27
Daily News Co., for advertising.	6 75
Daily News Job Print, for envel- opes.....	1 50
Lowell Daily Sun, for advertising	3 75
Lowell Daily Courier, for sub scription.....	6 00
Benjamin Lenthier, for advertis- ing.....	6 00

<i>Amounts carried forward.....</i>	\$7,080 48	\$39,311 56
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<i>Amounts brought forward</i>	\$7,080 48	\$39,311 56
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Paid for SUNDRIES :

To Sunday Arena, for advertising...	4 50	
Vox Populi Press, for printing and advertising.....	95 25	
F. P. Coggeshall, for envelopes..	3 38	
Hooper, Lewis & Co., for blank book.....	3 75	
Thomas H. Lawler, for book, sta- tionery, etc.....	60 68	
Little, Brown & Co., for book ...	5 25	
Library Bureau, for card case...	60 00	
The Engineering Record, for sub- scription	5 00	
J. Merrill & Son, for blank book, maps, etc.....	4 50	
Taylor Bros, for stationery, etc..	28 71	
G. C Prince & Son, for station- ery, etc.....	16 65	
T. S. Buck, for rubber stamp	4 65	
J. L. Severance, for rubber stamp	3 65	
Thomas L. Dickey, for insurance,	15 00	
Thomas C. Lee, for insurance...	37 50	
A. I. Ross, for typewriting.....	41 45	
F. E. Rollins, for typewriting...	2 60	
Hammond Typewriter Co., for ribbon and copy-holder.....	11 00	
Massachusetts Association Boards of Health, for assessments..	9 00	
James Bayles, for traveling ex- penses.....	7 31	
H. H. Knapp, for office expenses,	221 53	
William P. Lawler, for expenses at Medical Congress in Wash- ington	73 00	
A. W. Baker, for professional services	18 00	
Charles M. Frye, for professional services	23 50	
W. A. Johnson, for professional services	326 50	
A H. McCann, for professional services	2 00	

<i>Amounts carried forward</i>	\$8,164 84	\$39,311 56
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<i>Amounts brought forward.....</i>	\$8,164 84	\$39,311 56
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Paid for SUNDRIES :

To John J. Pickman, for professional services	11 15	
Charles H. Ricker, for professional services	2 00	
W. A. Sherman, for professional services	55 00	
J. H. Sparks, for professional services	21 00	
C. E. Simpson, for professional services	5 00	
Charles P. Wood, for professional services	5 00	
F. E. Saunders, for barometer and temperature readings.....	173 35	
Irvine Block, for rent.....	366 63	
Proprietors of Locks and Canals, for rent of land.....	35 89	
E. Sheppard & Son, for plants and flowers	5 00	
Thomas H. Connell, for carpenter work.....	826 98	
James Hickey, for removing bath house	220 00	
F. E. Shaw, for entertainment of guests	4 00	
Mary Donnelly, for labor.....	12 00	
Bridget Donnelly, for labor.....	28 00	
Alonzo Stuart, for labor.....	55 00	
J. W. Smith, for labor.....	3 00	
C.H.Hanson & Co., for use of horse	109 00	
Keyes & Co., for carriage hire...	3 00	
Murphy & Bingham, for carriage hire.....	1 50	
G. E. Stanley, for transportation.	3 00	
Boston & Maine R.R. for transpor.	2 40	
Boston & Maine Railroad, South-ern Div., for transportation.	2 24	
		\$10,114 98
Total expenditure for the year 1893		\$49,426 54
Balance undrawn Dec. 31, 1893.....		504 68
		\$49,931 22

WATER WORKS.

Balance undrawn Jan. 1, 1893.....	\$29,010 50	
	\$29,010 50	\$29,010 50

RECEIPTS.

Received into the Treasury on account of WATER WORKS:

From Sundry persons, for water, etc., in 1887.....	\$	3 25	
Sundry persons, for water, etc., in 1889.....		4 37	
Sundry persons, for water, etc., in 1890.....		21 72	
Sundry persons, for water, etc., in 1891.....		111 99	
Sundry persons, for water, etc., in 1892.....		22,487 90	
Sundry persons, for water, etc., in 1893.....		181,598 98	
Vox Populi Press, for over- draft.....		10 75	
		204,238 96	
			\$233,249 46

WATER WORKS.

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EXPENDITURES.

Paid for SERVICES :

To Miles F. Brennan, President, salary	\$ 400 00	
Robert J. Thomas, Superintend- ent, salary	1,800 00	
Sundry persons, for labor	44,717 53	
		\$46,917 53
Paid Appropriation for City Debt, installments on notes	\$16,000 00	
		16,000 00
Paid Water Loan Old Debt Sink- ing Fund	\$15,000 00	
		15,000 00

Paid INTEREST :

To Appropriation for Interest, in- terest paid Holyoke Water Power Co.	\$ 1,625 00	
Sundry persons, on City of Lowell Water Bonds	35,380 00	
City Institution for Savings, on notes	1,625 00	
Lowell Institution for Savings, on notes	19,195 00	
		57,825 00
Paid Sundry Persons, refunds on water rates	\$1,830 43	
		1,830 43

Paid for FUEL :

To Daniel Gage, for wood	\$10 25	
D. W. Horne & Son, for coal	9,532 01	
William E. Livingston, for coal ..	6 00	
Franklin T. Wilson, for wood ...	8 00	
C. D. West, for wood	1 00	
		9,557 26
<i>Amount carried forward</i>		\$147,130 22

Amount brought forward

\$147,130 22

Paid for PIPE, METERS,
HYDRANTS, ETC.:

To American Supply Co., for pack- ing.....	\$6 24
Aurora Iron Works, for pipe, etc.,	4 75
Builders' Iron Foundry, for pipe	302 40
Bingham & Taylor, for water vase, etc.....	28 65
H. R. Barker Manufacturing Co., for pipe, fittings and labor..	318 30
T. Costello & Co., for pipe, fit- tings, etc.....	1,389 52
Chapman Valve Manufacturing Co., for valves and hydrant	525 32
Deane Steam Pump Co, for pump, valves, receiver, etc.....	275 00
Dalton, Ingersoll & Co, for fit- tings.....	619 45
Drury & Green, for pipe, pumps, tubing, hose, etc.....	3,677 34
Eddy Valve Co., for valves, gates, etc.....	993 50
Farrell & Conaton, for pipe, fit- tings and labor.....	1,672 35
Hersey Manufacturing Co., for meter connections, castings, packing, etc.....	14 60
S. H. Jones, for pipe, fittings and labor.....	8 37
Locke Regulator Co., for weights and pulley.....	2 04
Lowell & Suburban Street Rail- way Co., for pipe.....	147 21
Ludlow Valve Manufacturing Co., for valves.....	286 46
George G. McLaughlin Manufac- turing Co., for tube cleaner head.....	5 00
W. A. Morrison, for valves, dam- per regulator, packing, etc..	60 65
McNeil Pipe and Foundry Co., for pipe.....	2,677 38

Amounts carried forward.....

\$12,914 53

\$147,130 22

Amounts brought forward..... \$12,914 53 \$147,130 22

Paid for PIPES, METERS, HY-
DRANTS, ETC.:

To Merrimack Iron Foundry, for castings.....	21 18	
Michigan Brass & Iron Works, for valves.....	27 00	
National Meter Co., for meters..	8,524 35	
Perrin, Seamans & Co, for pipe, jointers, etc.....	117 00	
Rensselear Manufacturing Co., for valve.....	12 50	
Seibert Cylinder Oil Cup Co., for oil cups.....	30 40	
Anthony P. Smith, for sleeve, gate, etc.....	158 50	
Staples Bros., for pipe extensions	749 52	
Thompson Meter Co., for repairs on meters.....	19 90	
Henry R. Worthington, for pump, and valve chambers.....	14 00	
Warren Foundry & Machine Co., for pipe.....	12,459 21	
Walworth Manufacturing Co., for dies, cutter, wrenches, gate boxes, etc.....	334 83	
R. D. Wood & Co., for pipe....	610 02	
Wheelock Engine Co., for reconstruction of Morris engine..	4,884 00	
New England Water Pipe Co., for pipe.....	54 09	
Peet Valve Co., for valves and water gates.....	630 00	
		41,661 03

Paid for SUNDRIES:

To Appropriation for Roads and Bridges, for engineering, labor, and material.....	\$441 00	
Appropriation for Watering Streets, for assessments.....	13 29	
<i>Amounts carried forward</i>	\$454 29	\$188,791 25

<i>Amounts brought forward.....</i>	\$454 29	\$188,791 25
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Paid for SUNDRIES:

To Appropriation for Public Buildings, for labor and material..	411 66
Appropriation for Driven Well Plant, for pipe, water, etc...	7,681 20
Lowell Gas Light Co., for gas ...	195 58
Lowell Electric Light Corp., for lighting	356 67
N. E. Telephone & Telegraph Co., for service	472 61
Postal Telegraph Cable Co, for service	70
W. U. Telegraph Co., for service	12 53
Otis Allen & Son, for lumber....	55 73
Burnham & Davis, for lumber...	1 86
J. W. Bennett & Co., for sash...	1 00
Daniel Gage, for lumber.....	6 00
Howe Lumber Co., for lumber...	230 60
Mark Holmes, Jr., & Son, for lumber	7 50
William Kelly & Son, for lumber	1 85
Amasa Pratt & Co., for lumber.	8 72
C. I. Taylor & Co., for furniture .	340 25
American Bolt Co., for studs, bolts, wrenches, etc.....	261 27
O. E Averill, for blacksmithing..	203 72
J. J. Adams, for filing saws.....	80
Alfred Box & Co., for lift wheel.	10 80
Bartlett & Dow, for hardware...	199 47
Boutwell Bros., for iron and steel.	78 15
Bradlee, Hastings & Co., for wrenches and bellows.....	17 90
Callahan & Sanborn, for hardware, etc.....	35 65
W. W. Carey, for couplings and labor.....	4 71
Dodge, Haley & Co., for wrench.	4 50
Derby & Morse, for wire, etc....	13 56
Doherty Bros., for castings.....	10 08
George W. Fifield, for sleeve ...	2 00
W. B. Glover, for filing saws....	80
C. O. A. Grover, for steel stamp.	1 35

<i>Amounts carried forward.....</i>	\$11,083 51	\$188,791 25
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<i>Amounts brought forward.....</i>	\$11,083 51	\$188,791 25
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Paid for SUNDRIES :

To Lowell Machine Shop, for cast-ings.....	7 58
W. A. Morrison, for packing	6 75
George F. Pearson, for covering steam pipe.....	53 00
H. B. Shattuck & Son, for bolts.	50
Thompson Hardware Co., for lead packing, etc.....	138 52
W. A. Mack & Co., for iron and labor	3 43
A. F. Nichols, for castings.....	2 16
S. C. & G. H. Smith, for studs, nuts and labor.....	1 91
Scannel & Wholey, for grates, boiler, etc.....	1,267 24
J. W. Stewart, for couplings, labor, etc.....	5 18
Joseph Turner, for wrench, labor, etc.....	3 00
Union Brass Foundry, for composition	18 36
H. H. Wilder & Co., for dippers, linings, labor, etc.....	22 48
Bennett & Conlon, for mason work and material	2,117 88
David W. O'Brien, for mason work.....	18 00
William E. Livingston, for lime, cement and kaolin	19 05
W. H. Ward, for use of engine..	50 00
Waldo Bros., for brick.....	144 32
Phillip Ginty, for slate, zinc and labor	4 35
Eugene N. Morrill, for glass and labor.....	2 00
John F. Murphy, for labor.....	69 52
E. A. & A. T. Smith, for concrete	173 70
Mrs. C. D. Starbird, for sand....	67 00
Albert Crowell, for drugs, etc...	1 30
Carleton & Hovey, for syringe, dusters, etc	20 91

<i>Amounts carried forward.....</i>	\$15,301 65	\$188,791 25
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Amounts brought forward..... \$15,301 65 \$188,791 25

Paid for SUNDRIES :

To C. B. Coburn & Co., for oil, soda, pails, brushes, etc.....	217 66	
C. G. Coburn, for oil, soap, nails, etc.....	80	
Donovan & Co., for forcite and exploders	170 22	
Charles F. Dow, for glasses	3 00	
W. H. Gibson, for hoof com- pound.....	2 00	
Josiah Gates & Sons, for leather, repairing hose, etc....	28 50	
E. F. Hathaway, for lettering books and boxes.....	19 42	
Johonnot & Co., for tripoli.....	6 00	
James F. Kelty, for oil	60	
Lowell Rubber Co., for atomizer and bulb.....	1 00	
H. C. McOsker, for paper and labor.....	2 83	
William Nichols & Co., for dualin, candles, etc.....	26 40	
Page Belting Co., for waste....	52 56	
Simpson & Rowland, for soap ...	4 25	
W. H. Spalding & Co., for spirits turpentine	1 26	
P. J. Smith, for waste.....	8 64	
Sterling Mills, for wool sacks....	18 75	
Talbot Dyewood & Chemical Co., for salamoniac.....	1 24	
Vacuum Oil Co., for oil.....	159 09	
Henry F. Whiting, for beltings and lacings	13 43	
Adams & Co., for furniture, re- pairing, etc.....	14 23	
A. N. Harmon & Co., for frames.	25 50	
A. L. Kittredge, for glass, labor, etc.....	23 25	
O'Donnell & Gilbride, for mirror and baskets	8 50	
J. F. Puffer & Son, for umbrella stand	2 25	
<i>Amounts carried forward</i>	<u>\$16,113 03</u>	<u>\$188,791 25</u>

Amounts brought forward..... \$16,113 03 \$188,791 25

Paid for SUNDRIES :

To Campbell & Hanscom, for printing and advertising	113 70
Citizen Newspaper Co, for blank books, envelopes, printing and advertising.....	165 37
Daily News Co., for printing....	40 53
Engineering Record, for advertising and subscription	6 50
Engineering News Publishing Co., for subscription.....	5 00
Fire and Water, for subscription.	3 00
Lowell Courier Publishing Co., for printing and advertising.	33 86
Lowell Sun, for printing.....	67 55
Lowell Daily Sun, for advertising	20 71
L'Etoile, for advertising.....	2 60
Le National. for advertising.....	10 48
Benjamin Lenthier, for advertising	11 25
Lepine & Co., for advertising....	2 50
Vox Populi Press, for printing and advertising.....	267 60
Morning Mail Corp., for printing and advertising.....	50 06
Bachelor, Dumas & Co., for blank books	178 55
Lyon Platinum Pen Co., for pens	22 50
Thomas H. Lawler, for stationery	8 52
J. Merrill & Son, for stationery..	5 25
G. C. Prince & Son, for ink stands, diaries, pads. etc.....	8 25
Smith Premier Typewriter Co., for copy book	3 25
Taylor Bros, for stationery.....	17 57
Hyckoff, Seamans & Benedict, for repairing typewriter.....	9 60
Winckley, Dresser & Co., for typewriter paper	3 00
Wadsworth, Howland & Co, for paper	3 00
F. Blanche Hard, for typewriting	6 02

Amounts carried forward..... \$17,179 25 \$188,791 25

Amounts brought forward..... \$17,179 25 \$188,791 25

Paid for SUNDRIES:

To F. E. Rollins, for typewriting ...	2 40
Proprietors of Lowell Cemetery, for labor.....	28 35
Proprietors of Locks and Canals, for rent of land.....	362 50
William D. Andrews & Bros., for making tests for wells.....	1,000 00
H. C. Church & Son, for in- surance.....	210 00
Miles F. Brennan, for traveling expenses.....	14 00
Charles L. Knapp, for office ex- penses.....	106 41
George A. Nelson, for car fares..	13 00
Robert J. Thomas, for expenses of Board and Superintendent..	56 24
Edward K. Hill, for services	15 00
Samuel McClure, for expenses in making repairs on Morris Engine	208 13
Lowell & Suburban Street Rail- way Co., for tickets.....	14 00
A. Y. Caswell, for mileage books.	40 00
T. S. Buck, for stamp.....	3 32
J. H. Jacobs, for rubber bands...	5 35
George E. Maker, for frames	10 90
J. S. Marion, for photographs...	10 00
H. O'Sullivan, for rubber boots..	107 00
O'Sullivan Bros., for rubber boots	8 00
W. A. Sherman, for professional services	11 25
D. L. Page Co., for refreshments.	26 25
Richardson's Hotel, for refresh- ments	18 80
The N. Davis Co., for water cooler	10 00
W. D. Duncan & Nickerson, for diving	100 00
A. F. Cogger, for board of Messrs. Duncan & Nickerson	4 50
Charles Clapp, for horse.....	200 00

Amounts carried forward..... \$19,764 65 \$188,791 25

Amounts brought forward..... \$19,764 65 \$188,791 25

Paid for SUNDRIES:

To T. M. Bolton, for repairing harnesses	176 10	
J. C. Donovan, for repairing harnesses	65 55	
E. P. Bryant, for repairing carriages	62 70	
Fay Bros. & Hosford, for repairing carriage.....	4 62	
Conant & Co., for wagon and whips	221 75	
J. H. Swett, for repairing wagons	78 40	
Sawyer Carriage Co., for wagon and repairing carriages.....	186 50	
Cahill Bros., for shoeing.....	63 60	
T. J. Reynolds, for shoeing.....	88 05	
Ame & Co., for standard food...	13 50	
W. P. Foye, for hay, corn and salt	210 85	
T. J. McDonald, for oats, oat meal, etc.....	226 47	
E. S. Sherman & Co., for salt, seeds, oat meal, etc.....	141 36	
A. G. Stiles & Co., for hay.....	24 27	
E. N. Wood, for hay, oats, etc..	232 70	
E. N. Wood & Co., for corn and straw	18 48	
D. H. Kelly, for mason work and material.....	13 10	
William E. Livingston, for cement	1 30	
Charles Clapp, for use of horse..	21 00	
J. A. Chase, for carriage hire....	6 50	
Gregoire & Madden, for carriage hire.....	1 50	
Ernest London, for carriage hire	3 35	
Murphy & Bingham, for carriage hire.....	22 50	
J. E. O'Donnell, for carriage hire	7 50	
J. H. Sparks, for carriage hire...	22 00	
B. G. Brown, for teaming.....	28 00	
William Dunning, for teaming..	28 00	
James R. Dunning, for teaming	377 50	
C. H. Hanson & Co., for teaming	24 00	
<i>Amounts carried forward</i>	<u>\$22,135 80</u>	<u>\$188,791 25</u>

<i>Amounts brought forward.....</i>	\$22,135 80	\$188,791 25
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Paid for SUNDRIES :

To John A. Simpson, for teaming...	2 00	
American Express Co., for transportation.	16 70	
Boston & Maine Railroad, for transportation.....	27 70	
Boston & Maine Railroad, Southern Division, for transportation.....	911 13	
Boston & Maine Railroad, Western Division, for transportation.....	3 34	
Lovejoy-Paul Express Co., for transportation.....	4 40	
New York & Boston Despatch Express Co., for transportation.....	9 54	
		23,110 61
Total expenditure for the year 1893..		\$211,901 86
Balance undrawn, Dec. 31, 1893.....		21,347 60
		\$233,249 46

DRIVEN WELL PLANT.

Balance undrawn Jan. 1, 1893.....	\$99,995 20	
	<u> </u>	\$99,995 20

RECEIPTS.

From Appropriation for Water Works, for pipe and water	\$7,681 20	
Mary A. Daniels, for amount of bill for land, returned to Treasury	422 20	
Alonzo P. Quimby, for overcharge for land.....	130 00	
	<u> </u>	\$8,233 40
		<u><u>\$108,228 60</u></u>

EXPENDITURES.

Paid for SUNDRIES :

To Sundry persons, for labor	\$8,288 36
Appropriation for Roads and Bridges, for labor and engineering	401 50
Appropriation for Watering Streets, for teaming.....	16 00
Appropriation for Paupers, for sand	263 00
Appropriation for Public Buildings, for labor and material.	669 72
	<u> </u>
<i>Amount carried forward</i>	<i>\$9,638 58</i>

Amount brought forward..... \$9,638 58

Paid for SUNDRIES :

To Appropriation for Water Works, for labor and material	1,804 82
Lowell Electric Light Corp., for lighting	61 00
New England Telephone and Tel- egraph Co, for service.....	47 43
Western Union Telegraph Co., for service.....	1 72
Postal Telegraph Cable Co., for telegrams.....	2 96
Gratia A Coburn, for 4 acres, 84 rods of land, at \$300 per acre	1,357 50
Mary A. Daniels, for 10,555 square feet of land on Chelmsford street	422 20
Alonzo P. Quimby, for 2 56-100 acres of land, Plain street, at \$500 per acre.....	1,280 00
Burnham & Davis, for lumber...	184 34
Davis & Sargent, for lumber	14 40
Howe Lumber Co., for lumber...	569 21
William Kelly & Son, for doors, sash, etc.....	91 00
Maguire & Twohey, for lumber, hardware and labor	171 40
Amasa Pratt & Co., for lumber..	15 35
Chas. E. Adams, for nails	30
Bartlett & Dow, for hardware, tools, etc.....	272 57
Thompson Hardware Co., for hardware	1 50
William D. Andrews & Bros., for pipe and strainer.....	453 73
C. J. Cheney, Jr., for pipe	30 35
Davis & Farmer Mfg. Co., for pipe	241 68
Drury & Green, for pipe, fittings and labor.....	529 45
Warren Foundry & Machine Co., for pipe.....	18,544 36
R. D. Wood & Co., for pipe.....	157 58

Amount carried forward..... \$35,893 43

Amount brought forward..... \$35,893 43

Paid for SUNDRIES :

To American Bolt Co., for bolts, screws, plates, rods, studs, etc.	300 13
H. R. Barker Mfg. Co., for pipe, labor, etc.....	1,248 81
Builders Iron Foundry, for castings	8 80
Boutwell Bros., for steel plates...	10 35
Deane Steam Pump Co., for pumps, etc.....	9,342 27
Eddy Valve Co., for gates, hubs, etc.....	1,234 00
Massachusetts Cotton Mills, for iron hoops	24
W. A. Morrison, for damper reg- ulator	150 00
Priest, Page & Co., for scales	77 00
Peet Valve Co., for water gates..	169 00
James A. Ready, for smoke stack	300 00
Starr Brass Mfg. Co., for gauges and registers	101 40
Pittsburgh Testing Laboratory, for testing pipe.....	281 93
Scannell & Wholey, for castings and labor	381 00
Cook Well Co., on account of contract for wells.....	6,062 50
Bennett & Conlon, for brick, con- crete and labor.....	770 08
Edward Cawley, for lime, cement and coal.....	192 50
Connors Bros., for brick, use of derrick, labor, etc.....	712 85
William E. Livingston, for cement, etc.....	816 73
Maine & New Hampshire Granite Co., for stone.....	90 00
P. O'Hearn, for brick.....	26 25
Staples Bros., for brick and cement	206 92
Josiah Butler, for taking out gates to lower water.....	100 00
D. W. Horne & Son, for coal....	2,201 58

Amount carried forward.....

\$60,677 77

Amount brought forward..... \$60,677 77

Paid for SUNDRIES:

To C. B. Coburn, for oil, can, brush, etc.....	42 36
J. J. Cluin, for chronograph.....	8 00
Alvin Lawrence, for clock.....	8 00
Page Belting Co., for hose, noz- zles, etc.....	71 50
Talbot Dyewood & Chemical Co., for bottles and corks.....	5 50
H. C. Church & Son, for insurance	110 00
A. L. Kittredge, for blue prints..	1 50
A. L. Ready & Son, for canvass	15 00
Vacuum Oil Co., for oil.....	56 46
George Bowers, for travelling ex- penses, postage, telegrams, etc.	11 20
C. L. Knapp, for expenses to New York, Hoboken and Brook- lyn, postage, etc.....	46 92
Robert J. Thomas, for travelling expenses.....	2 25
George A. Nelson, for car fares and photograph.....	17 75
William F. Sullivan, for car fares	9 25
J. F. Puffer & Son, for water cooler.....	2 40
John F. Stark, for use of level..	15 00
Bachelor, Dumas & Co., for book	13 25
Campbell & Hanscom, for adver- tising	2 00
Daily News Co., for advertising.	1 88
Engineering Record, for advertis- ing	10 50
F. Blanche Hard, for typewriting	6 38
Richardson's Hotel, for refresh- ments	40 20
J. W. Bennett & Co., for roofing.	282 05
James Gill, for carriage hire.....	3 00
Keyes & Co., for carriage hire...	5 00
Murphy & Bingham, for carriage hire	46 00
J. H. Sparks, for carriage hire...	6 00
B. G. Brown, for teaming.....	50 00

Amount carried forward..... \$61,567 12

Amount brought forward..... \$61,567 12

Paid for SUNDRIES :

To James R. Dunning, for teaming..	200 00
C. H. Hanson & Co., for teaming	2 00
Daniel F. Lyons, for teaming....	2 00
Daniel McCarthy, for teaming...	1 00
William Partridge, for teaming..	255 00
William Roberts, for teaming...	4 50
Boston & Maine Railroad, for transportation	65 93
Boston & Maine Railroad, West- ern Division, for transporta- tion	2 37

Total expenditure for the year 1893..
Balance undrawn Dec. 31, 1893.....

\$62,099 92
46,128 68

\$108,228 60

SALARIES.

Balance undrawn Jan. 1, 1893.....	\$ 375 68	
Appropriation.....	30,000 00	
		\$30,375 68
Transferred from Reserved Fund,	\$139 32	
		139 32
		<u>\$30,515 00</u>

EXPENDITURES.

Paid SALARIES OF OFFICERS :

To John J. Pickman, Mayor	\$2,500 00
Austin K. Chadwick, City Treasurer and Collector of Taxes.	2,700 00
Michael J. Dowd, City Clerk....	1,800 00
David Chase, Auditor of Accounts	1,800 00
John J. Hogan, City Solicitor...	2,000 00
James H. Cahill, City Messenger.	1,200 00
Frank J. Simonds, Clerk of Common Council	250 00
William P. Lawler, City Physician.....	700 00
Nathaniel E. Annis, Sealer of Weights and Measures	68 44
Jas. R. Fulton, Sealer of Weights and Measures.....	231 56
<i>Amount carried forward.....</i>	<i>\$13,250 00</i>

Amount brought forward..... \$13,250 00

Paid SALARIES OF OFFICERS:

To Lawrence J. Thyne, Pound Keeper	25 00
Samuel P. Palmer, Fish Warden,	40 00
Thomas O. Allen, Inspector of Milk, Vinegar, etc.....	1,200 00
Abel, Wheeler, Assessor of Taxes	2,250 00
Nathan D. Pratt, Assessor of Taxes.....	2,250 00
John P. Mahoney, Assessor of Taxes.....	2,250 00
Fred N. Edgell, Assistant As- sessor	200
John E. Maguire, Assistant As- sessor	72 33
Michael J. Garvey, Assistant As- sessor	55 89
C. Arthur Abbott, Assistant As- sessor	1,200 00
Avila Buerbounierre, Assistant Assessor	1,200 00
George S. Cushing, Assistant As- sistant.....	1,000 00
Frank B. Hawes, Assistant As- sessor	1,144 11
George A. Locke, assistant as- sessor.....	1,127 67
Robert L. Read, assistant assessor	1,200 00
Charles H. McIntire, registrar of voters (chairman).....	550 00
Michael J. Dowd, registrar of voters (secretary).....	500 00
Frank E. Dunbar, registrar of voters.....	500 00
James F. Owens, registrar of voters.....	500 00

Total expenditures for the year 1893.

\$30,515 00

STATE AID.

Balance undrawn Jan. 1, 1893.....	\$13,980 77	
Appropriation.....	2,000 00	
		\$15,980 77

RECEIPTS.

From Commonwealth, reimbursement for State Aid of 1892	\$14,889 00	
Sundry persons, cash returned to Treasury	314 00	
		\$15,203 00
		\$31,183 77

EXPENDITURES.

Paid Sundry persons, aid rendered in 1893.....	\$13,791 00	
Total expenditure for the year 1893..		\$13,791 00
Balance undrawn Dec. 31, 1893.....		17,392 77
		\$31,183 77

AID FOR INDIGENT SOLDIERS AND SAILORS.

Balance undrawn Jan. 1, 1893.....	\$6,675 65	
	\$6,675 65	

RECEIPTS.

From Commonwealth, reimbursement for aid rendered in 1892...	\$3,066 00	
Sundry persons, cash returned to Treasury.....	69 00	
	3,135 00	
		\$9,810 65

EXPENDITURES.

Paid Sundry persons, for aid rendered in 1893	\$5,153 00	
	\$5,153 00	
Total expenditure for the year 1893..		4,657 65
Balance undrawn Dec. 31, 1893.....		\$9,810 65

CITY DEBT.

Appropriation.....	\$166,800 00	
	\$166,800 00	\$166,800 00

RECEIPTS.

From Appropriation for Water Works, instalment on note, dated March 9, 1891.....	\$6,000 00	
Appropriation for Water Works, instalment on note, dated Dec. 1, 1892.....	10,000 00	
Blake Bros. & Co., for Water Loan Bonds, dated Nov. 1, 1890.	100,000 00	
	116,000 00	
		\$282,800 00

EXPENDITURES.

Paid on account of WATER
DEBT.

To Lowell Institution for Savings, instalment on notes.....	\$16,000 00	
Lowell Institution for Savings, note which matured, June 14, 1893.....	100,000 00	
	\$116,000 00	
<i>Amount carried forward.....</i>		\$116,000 00

CITY DEBT.

237

Amount brought forward..... \$116,000 00

Paid on account of ORDINARY
CITY DEBT:

To Sundry persons, bonds which ma- tured during the year 1893..	\$44,500 00	
Lowell Institution for Savings, instalments on notes.....	100,500 00	
Central Savings Bank, instalments on notes.....	11,400 00	
Essex Savings Bank, instalment on note.....	5,400 00	
Salem Five Cent Savings Bank, instalment on note.....	5,000 00	
		166,800 00
Total expenditure for the year 1893..		\$282,800 00

INTEREST.

Balance undrawn Jan. 1, 1893.....	\$ 9,107 55	
Appropriation.....	70,000 00	
		\$79,107 55

RECEIPTS.

From Appropriation for Water Works, for amount of interest paid Holyoke Water Power Co	\$1,625 00	
Sundry Persons, interest on taxes.....	7,002 63	
Sundry persons, interest on assessments for Watering Streets.....	06	
Lowell Trust Co., interest on daily balances	6,467 24	
Lowell Institution for Savings, premium on note	50 00	
Lee, Higginson & Co., for premium and accrued interest on note.....	2,837 57	
		\$17,982 50
		\$97,090 05

EXPENDITURES.

Paid on account of INTEREST :

To	Lowell Institution for Savings ..	\$39,299 88	
	Lowell Five Cent Savings Bank.	1,625 00	
	Salem Five Cent Savings Bank..	1,200 00	
	Central Savings Bank.....	4,294 00	
	Essex Savings Bank	1,296 00	
	Trustees Estate, Thomas Nesmith	1,560 00	
	Trustees Estate, Jonathan Tyler.	600 00	
	Trustees Public Burial Ground ..	40 06	
	Holyoke Water Power Co.....	1,625 00	
	Sundry persons, interest on bonds	37,130 00	
	Sundry persons, interest on Tem- porary Loans.....	7,865 43	
	Sundry persons, overcharge in interest on taxes.....	1 08	
Total expenditure for the year 1893..			\$96,536 45
Balance undrawn Dec. 31, 1893.....			553 60
			<u>\$97,090 05</u>

NATIONAL BANK TAX.

Balance undrawn Jan. 1, 1893.....	\$4,802 51	
Assessed on Stocks in National Banks, owned by non-residents in 1893,	17,397 53	
Received from Commonwealth on ac- count of Tax of 1893	4,864 54	
		<u>\$27,064 58</u>

EXPENDITURES.

Paid Commissioners of Sinking Funds	\$4,669 70	
Commonwealth, on account of tax 1892	132 81	
Commonwealth, on account of tax 1893	17,356 17	
Total expenditure for the year 1893..		\$22,158 68
Balance undrawn, Dec. 31, 1893.....		4,905 90
		<u>\$27,064 58</u>

STATE TAX.

Assessed in 1893.....	\$75,639 29	
	\$75,639 29	

EXPENDITURES.

Paid Commonwealth, State Tax of 1893 (ordinary).....	\$70,725 00	
Commonwealth, on account of Armory loan.....	1,764 29	
Commonwealth, on account of interest on Armory loan..	3,150 00	
		\$75,639 29

COUNTY TAX.

Assessed in 1893.....	\$57,751 55	
	\$57,751 55	

EXPENDITURE.

Paid County of Middlesex.....	\$57,751 55	
	\$57,751 55	

TAXES.

The amount of Taxes assessed on the Polls and on the Real and Personal Estate, within the City of Lowell, for the year 1893, was as follows, viz.:

VALUATION OF AND TAX ON REAL AND PERSONAL PROPERTY.

VALUATION.		RATE.	TAX.
Of Personal Property	\$18,004,970	\$16.40 per \$1,000	\$ 295,281.50
Real Estate	50,851,600	16.40 per 1,000	833,966.24
Total Valuation	\$68,856,570	Tax on property,	\$1,129,247.74
Number of Polls, 23,511	at \$2.00 each.....		47,022 00
			<u>\$1,176,269 74</u>
Tax assessed on shares of stock in the National Banks of Lowell held by non-residents, and which are not included in the City Valuation...		\$17,397 53	
			<u>\$17,397 53</u>
Grand Tax Total			<u><u>\$1,193,667 27</u></u>

APPROPRIATED AND ASSESSED IN 1893.

For City Appropriation	\$1,013,100 00	
State Tax.....	75,639 29	
County Tax.....	57,751 55	
National Bank Tax (non-residents).....	17,397 53	
Overlays.....	29,778 90	
	<u>-----</u>	<u><u>\$1,193,667 27</u></u>

TAXES.

243

TAXES.

	Due Jan. 1, 1893 and assessed in 1893.	Abated in 1893.	Collected in 1893.	Due Dec. 31, 1893.
Taxes of 1887	\$ 218 88			\$ 218 88
Taxes of 1888	462 55			462 55
Taxes of 1889	18,621 76		\$ 17 47	18,604 29
Taxes of 1890	15,383 27	\$14,664 76	269 49	449 02
Taxes of 1891	48,079 68	840 14	33,550 40	13,689 14
Taxes of 1892	156,731 33	1,354 00	99,914 73	55,462 60
Taxes of 1893	1,193,667 27	7,721 66	971,072 78	214,872 83
	\$1,433,164 74	\$24,580 56	\$1,104,824 87	\$303,759 31

ABATEMENT OF TAXES.

Balance undrawn, Jan. 1, 1893	\$7,149 07	
Overlays, assessed in 1893.....	29,778 90	
		\$36,927 97

EXPENDITURES.

To Otis Allen, on tax of 1893.....	\$ 12 63	
Charles H. Allen, on tax of 1893	16 40	
Frederick Ayer, on tax of 1893..	24 60	
Michael Boland, on tax of 1893..	10 82	
John Crowe, on tax of 1889.....	2 09	
William Carr, on tax of 1892...	2 75	
Heirs of John Cosgrove, on tax of 1893.	3 28	
Samuel Cohen, on tax of 1893...	1 38	
Judith P. Downing, on tax of 1891	5 15	
Est John A. Denton, on tax of 1893.	27 72	
Ernest W. Dowse, on tax of 1893	1 64	
Bernard H. Flood, on tax of 1892	1 00	
Margaret Fields, on tax of 1893	3 28	
Zachary Gagnon, on tax of 1892	2 00	
James U. Gage, on tax of 1893..	3 61	
Mary Haynes, on tax of 1893....	10 00	
<i>Amount carried forward</i>		\$128 35

ABATEMENT OF TAXES.

245

Amount brought forward..... \$128 35

Charles W. Kittredge, on tax of 1892.....	2 00
Lawrence E. Lewis, on tax of 1893.....	26 08
John McGuire.....	35 00
Rufus A. Maxfield, on tax of 1893	24 60
Elizabeth McDaniels, on tax of 1893.....	13 12
Old Colony Railroad, on tax of 1893....	16 40
Rowena H. Reed, on tax of 1893	4 10
John Shanley, on tax of 1893....	241 74
Daniel Swan, on tax of 1893....	32 80
Frances E. Shaw, on tax of 1893	8 20
George E. Thompson, on tax of 1892.....	2 25
Mrs. Benjamin P. Twiss, on tax of 1893.....	2 00

\$536 64

Abated by Assessors Before Payment.

Sundry persons, on tax of 1890..	\$14,664 76
Sundry persons, on tax of 1891..	840 14
Sundry persons, on tax of 1892..	1,354 00
Sundry persons, on tax of 1893..	7,721 66

24,580 56

Balance undrawn Dec. 31, 1893.....

\$25,117 20

11,810 77

\$36,927 97

TEMPORARY LOANS.

RECEIPTS.

From	Lowell Institution for Savings,	\$217,000 00	
	Traders National Bank.....	20,000 00	
	Blake Bros. & Co.	155,000 00	
	Rogers, Newman & Co.....	25,000 00	
	Sundry persons.....	85,000 00	
			\$502,000 00

EXPENDITURES.

Paid	Lowell Institution for Savings,	\$217,000 00	
	Blake Bros. & Co.....	150,000 00	
	Rogers, Newman & Co.....	25,000 00	
	Sundry persons.....	56,900 00	
			\$448,900 00
	Notes unpaid Dec. 31, 1893.....		53,100 00
			\$502,000 00

SINKING FUND.

HIGH SCHOOL SINKING FUND.

Appropriated and assessed in 1893...	<u>\$3,000 00</u>	<u>\$3,000 00</u>
Paid Commissioners of Sinking Fund.	<u>\$3,000 00</u>	<u>\$3,000 00</u>

CITY HALL AND MEMORIAL BUILDING SINKING FUND.

Appropriated and assessed in 1893...	<u>\$7,500 00</u>	<u>\$7,500 00</u>
Paid Commissioners of Sinking Funds	<u>\$7,500 00</u>	<u>\$7,500 00</u>

INTERCEPTING SEWER FUND.

Appropriated and assessed in 1893...	<u>\$5,000 00</u>	<u>\$5,000 00</u>
Paid Commissioners of Sinking Funds	<u>\$5,000 00</u>	<u>\$5,000 00</u>

WATER LOAN SINKING FUND.

Appropriated and assessed in 1893...	\$16,000 00	
Received from Blake Bros. & Co., premium and accrued interest on bonds.....	590 00	
	<u> </u>	<u>\$16,590 00</u>
 Paid Commissioners of Sinking Funds	 \$16,590 00	 <u>\$16,590 00</u>

WATER LOAN, OLD DEBT, SINKING FUND.

Received from Appropriation for Water Works.....	\$15,000 00	
	<u> </u>	<u>\$15,000 00</u>
 Paid Commissioners of Sinking Funds	 \$15,000 00	 <u>\$15,000 00</u>

SINKING FUND FOR HIGH SERVICE WATER SUPPLY.

Appropriated and assessed in 1893....	\$1,800 00	
	<u> </u>	<u>\$1,800 00</u>
 Paid Commissioners of Sinking Funds	 \$1,800 00	 <u>\$1,800 00</u>

FUND FOR REDUCTION OF THE ORDINARY CITY DEBT.

Balance undrawn Jan. 1, 1893.....	\$55,042 67	
	<u> </u>	\$55,042 67

RECEIPTS.

From Commonwealth, on account of Corporation Tax of 1892..	\$ 1,512 95	
Commonwealth, on account of Corporation Tax of 1893..	61,763 86	
	<u> </u>	\$63,276 81
		<u> </u>
		\$118,319 48

EXPENDITURES.

Paid Commonwealth, on account of Corporation Tax of 1892..	\$ 384 32	
Commissioners of Sinking Funds.....	56,171 30	
	<u> </u>	\$56,555 62
Balance undrawn Dec. 31, 1893.....		61,763 86
		<u> </u>
		\$118,319 48

CARNEY MEDAL FUND.

Received of James G. Carney, Esq.,
in 1858 and 1859, the amount of
two hundred dollars, which is to
remain a perpetual debt of the
City forever; the interest to be
applied in payment for the "Car-
ney Medal" to the departments
of the High School annually....

\$200 00

Balance undrawn Dec. 31, 1893.....

\$200 00

SINKING FUNDS.

The values of the several Sinking Funds Dec. 31, 1893, which apply to the reduction of the Water Debt, as reported by the Commissioners of Sinking Funds, are as follows :

Water Loan Sinking Fund.....	\$101,503 69	
Water Loan, Old Debt, Sinking Fund	40,012 55	
Sinking Fund for High Service Water Supply.....	25,981 46	
		\$167,497 70

The values of the several Sinking Funds Dec. 31, 1893, which apply to the reduction of the Ordinary City Debt as reported by the Commissioners of Sinking Funds, are as follows :

Fund for the payment of the Ordinary City Debt.....	\$223,355 91	
<i>Amounts carried forward.....</i>		
	\$223,355 91	\$167,497 70

<i>Amounts brought forward</i>	\$223,355 91	\$ 167,497 70
Intercepting Sewer Fund.....	62,971 30	
City Hall and Memorial Building Sinking Fund.....	48,514 46	
High School Sinking Fund.....	10,224 44	
		345,066 11
Total value of the Sinking Funds Dec. 31, 1893.....		<u>\$512,563 81</u>
The value of the Hapgood Wright Centennial Trust Fund, Dec. 31, 1893.....	\$ 2,133 31	
		<u>\$2,133 31</u>

APPROPRIATIONS 1893.

Schools.....	\$200,000 00	
School Houses.....	25,000 00	
Roads and Bridges.....	85,000 00	
City Cemeteries.....	3,000 00	
Paupers.....	60,000 00	
Police.....	82,000 00	
Fire Department.....	110,000 00	
Sewers and Drains.....	20,000 00	
Commons.....	10,000 00	
Printing and Advertising.....	5,000 00	
Lighting.....	60,000 00	
Public Buildings.....	15,000 00	
Library.....	11,000 00	
Health.....	25,000 00	
Salaries.....	30,000 00	
State Aid.....	2,000 00	
Interest.....	70,000 00	
City Debt.....	166,800 00	
City Hall and Memorial Building Sink- ing Fund.....	7,500 00	
High School Sinking Fund.....	3,000 00	
Intercepting Sewer Fund.....	5,000 00	
Water Loan Sinking Fund.....	16,000 00	
Sinking Fund for High Service Water Supply.....	1,800 00	
State Tax.....	75 639 29	
County Tax.....	57,751 55	
National Bank Tax.....	17,397 53	
Abatement of Taxes.....	29,778 90	
		\$1,193,667 27

DEBTS DUE THE CITY.

Taxes of 1887.....	\$218 88	
Taxes of 1888.....	462 55	
Taxes of 1889.....	18,604 29	
Taxes of 1890.....	449 02	
Taxes of 1891.....	13,689 14	
Taxes of 1892.....	55,462 60	
Taxes of 1893.....	214,872 83	
Sidewalk Assessments.....	6,806 11	
Sewer Assessments.....	2,006 00	
Water Rates, Service Pipe, etc.....	28,230 87	
State Aid.....	13,477 00	
Aid for Indigent Soldiers and Sailors.	2,542 00	
Watering Street Assessments, 1892..	463 22	
Watering Street Assessments, 1893..	4,140 99	
		\$361,425 50

REAL ESTATE OWNED BY THE CITY.

Memorial Building.....	\$200,000 00
City Hall.....	410,000 00
Old City Hall.....	83,000 00
Huntington and Jackson Halls.....	40,000 00
Market House.....	75,500 00
City Scales.....	750 00
High School-house, on Anne and Kirk Streets.....	250,000 00
Bartlett School-house, on Clark Street.....	18,000 00
Butler School-house, on Gorham Street.....	63,000 00
Colburn School-house, on Lawrence Street.. ..	20,000 00
Edson School-house, on Highland Street.....	28,000 00
Franklin School house, on Branch Street.....	25,000 00
Green School house, on Merrimack Street.....	105,000 00
Moody School-house, on Rogers Street.....	80,000 00
Mann School-house, on Lewis Street.....	25,000 00
Varnum School-house, on Myrtle Street.....	40,000 00
Highland School-house, on Pine Street.....	67,000 00
Pawtucket School-house, on Mammoth Road.....	53,000 00
Chelmsford Street School-house.....	40,000 00
Oaklands School house.....	12,000 00
Primary School-house, on Powell Street, near Liberty Street.....	8,000 00
Primary School-house, on Powell Street, near Chelmsford Street.....	4,000 00
Primary School-house, on London Street.....	1,000 00
Primary School-house, on School Street.....	7,500 00
Primary School-house, on Pond Street.....	6,000 00
Primary School house, on High Street.....	9,000 00
Primary School-house, on Carter Street.....	5,000 00
Primary School-house, on Fayette Street.....	3,500 00
Primary School-house, on Cross Street.....	24,000 00
<i>Amount carried forward.....</i>	<i>\$1,703,250 00</i>

<i>Amount brought forward</i>	\$1,703,250 00
Primary School-house, on Cabot Street.....	23,500 00
Primary School-house, on West Sixth Street.....	7,000 00
Primary School-house, on Mammoth Road.....	1,500 00
Primary School-house, on Lakeview Avenue.....	8,000 00
Primary School-house, on Ames Street.....	8,000 00
Primary School-house, on Tenth Street.....	9,000 00
Primary School-house, on Favor Street.....	28,000 00
Primary School-house, on Cottage Street.....	4,500 00
Primary School-house, on Charles Street.....	20,000 00
Training School house, on Charles Street.....	30,000 00
Primary School-house, on Cheever Street.....	4,000 00
Primary School-house, on London Street.....	5,000 00
Primary School-house, on Chapel Street.....	4,000 00
Primary School-house, on Central Street.....	13,500 00
Primary School-house, on Howard Street.....	5,000 00
Primary School-house, on Worthen Street.....	25,000 00
Primary School-house on Lyon Street.....	20,000 00
Primary School-house, on Dover Street.....	13,500 00
Primary School-house, on Common Street.....	19,000 00
Primary School-house, on Agawam Street.....	9,000 00
Primary School-house, on Grand Street.....	5,500 00
Primary School-house, on Varnum Avenue.....	850 00
Primary School-house, on Kirk Street.....	18,000 00
Primary School-house, at Middlesex Village.....	2,500 00
Primary School-house, on Weed Street.....	10,500 00
Hose Carriage-house, on Fletcher Street.....	18,000 00
Hose Carriage-house, on Central Street.....	11,000 00
Hose Carriage-house, on Warren Street.....	11,000 00
Engine-house, on Gorham Street.....	15,000 00
Engine-house, on Lincoln Street.....	5,500 00
Engine-house and Ward-room, on Branch Street...	22,000 00
Engine-house and Ward-room, on Fourth Street...	15,000 00
Engine-house, on Palmer Street.....	76,000 00
Engine-house and Ward-room, on High Street....	24,000 00
Engine-house, on Westford Street.....	18,000 00
Chemical Engine-house, on Merrimack Street.....	4,500 00
City Farm and Buildings.....	180,000 00
Land and Buildings on Fletcher Street.....	3,500 00
Land and Buildings on Fletcher, Cross and La- grange Streets and Broadway.....	100,000 00
Public Landing in rear of Market House and Police Stable.....	9,500 00
Lot of Land on Chelmsford Street.....	5,000 00
Lot of Land on Fletcher and Bowers Streets.....	8,000 00
<i>Amount carried forward</i>	\$2,524,100 00

<i>Amount brought forward</i>	\$2,524,100 00
Lot of Land on First Street.....	190 00
Lot of Land on Middle Street.....	14,000 00
Lot of Land on Tenth Street.....	5,000 00
North Common.....	112,900 00
Engine-house, on Lawrence Street.....	26,000 00
Engine-house, on Mammoth Road.....	15,000 00
South Common.....	224,800 00
Mount Vernon Park.....	2,000 00
Belvidere Park.....	10,000 00
Wilson Park.....	1,600 00
Rogers Fort Hill Park.....	75,000 00
	<u>\$3,000,590 00</u>

WATER WORKS.

The Real Estate and Personal Property belonging to the City, occupied and used by the Water Works, net cost to Jan. 1, 1894.....	<u>\$2,426,242 07</u>
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BURIAL GROUNDS OWNED BY THE CITY.

No. 1 Burial Ground, on School Street.
 No. 2 Burial Ground, on Gorham Street.
 Edson Cemetery, on Gorham Street.

REAL AND PERSONAL PROPERTY OWNED BY THE CITY.

Real Estate.....	\$3,000,590 00
Water Works, net cost to Jan. 1, 1894.....	2,426,242 07
Personal Property in care of Superintendent of Schools.....	27,000 00
Personal Property in care of Superintendent of Streets, belonging to Streets.....	22,310 92
Personal Property in care of Superintendent of Streets, belonging to Watering Streets.....	9,000 00
Personal Property in care of Superintendent of Streets, belonging to Pawtucket Boulevard...	600 00
Personal Property in care of Superintendent of Streets, belonging to Sewers and Drains.....	6,394 20
Personal Property in care of City Engineer.....	1,000 00
Personal Property in care of Superintendent of Institutions at City Farm.....	32,800 00
Personal Property at Wood Yard.....	1,178 40
Personal Property belonging to City Dispensary...	2,100 00
Personal Property in care of Secretary of Overseers of the Poor.....	200 00
Personal Property in care of City Librarian.....	47,000 00
Personal Property in care of Chief Engineer of Fire Department.....	117,000 00
Personal Property in care of Superintendent of Street Lights.. ..	21,000 00
Personal Property in care of Board of Health....	15,000 00
Personal Property in care of Sealer of Weights and Measures.....	250 00
Personal Property in care of Superintendent of Public Buildings, not mentioned below.....	5,000 00
Personal Property in care of Superintendent of Edson Cemetery.....	1,200 00
Furniture in Huntington and Jackson Halls.....	2,500 00
Furniture in School Houses.....	5,000 00
Bell on High Street Church.....	500 00
Clock on High Street Church.....	500 00
Personal Property in care of Chief of Police.....	15,500 00
Personal Property in care of Superintendent of City Scales.....	225 00
Debts due the City.....	361,425 50
Cash in Treasury.....	45,575 99
	\$6,167,092 08

COST OF SEWERS LAID IN 1893.

"A" and Wilder Streets, from the terminus of the sewer formerly laid in "A" Street, at Puffer Street, westerly in "A" Street to Wilder Street, and southerly in Wilder Street, a total distance of 998.5 feet.....	\$ 2,205 84
Blossom Street, from the present sewer in West Street, easterly a distance of 490 feet.....	463 17
Bellevue Street (unfinished), from the present sewer in Westford Street, southerly a distance of 231.2 feet.....	862 48
Burnside Street, from the present sewer in Middlesex Street, southerly a distance of 352.8 feet..	378 38
Canada Street, from the present sewer in Tanner Street, easterly a distance of 638.3 feet.....	1,461 02
Chelmsford Street, from the terminus of the sewer formerly laid easterly from Hutchinson Street, easterly a distance of 140.5 feet.....	461 93
Chelmsford Street (unfinished), from the Intercepting sewer at New Fletcher Street, southerly a distance of 2466 feet.....	53,821 62
"C" Street, from the present sewer in Powell Street, westerly a distance of 942.7 feet.....	1,865 68
City Hall Avenue, from a point 15 feet east of the east line of Palmer Street, westerly a distance of 99 feet.....	609 02
Centralville Main (unfinished), from the present sewer in Hildreth Street, at Coburn Street, northerly and westerly a distance of 1031 feet,	23,605 99
Eighth Avenue, from the present sewer in Mammoth Road, northerly a distance of 300 5 feet	874 25
Foster, Princeton, Sayles and Westford Streets (unfinished), from the present sewer in Middlesex Street southerly in Foster Street to Princeton Street, westerly in Princeton Street to Sayles Street, southerly in Sayles Street to Westford Street, a total distance of 1589 feet.	8,568 70
<i>Amount carried forward.....</i>	<u>\$95,178 08</u>

<i>Amount brought forward.....</i>	\$95,178 08
Hovey Street, from the present Sewer in Lakeview Avenue, northerly, a distance of 356.5 feet....	425 52
Hall, Tucker and Cheever Streets, from the old stone drain which crosses Hall Street between Tucker and Perkins Streets, southerly in Hall Street to Tucker Street, westerly in Tucker Street to Cheever Street, northerly in Cheever Street, a total distance of 1188.2 feet.....	2,577 59
London Street, from the present sewer in West Street, easterly, a distance of 451 feet.....	458 80
Lincoln Street, from the present sewer in West Street, easterly, a distance of 492.3 feet.....	605 37
Livingston Avenue, from the present sewer in Middlesex Street, southerly, a distance of 1278 feet.....	3,188 14
Lincoln Street, from the present sewer in Tanner Street, easterly, a distance of 763.6 feet.....	1,188 54
Maple and West Streets (916 feet, completed), from the present sewer in Gorham Street, westerly in Maple Street to West Street, southerly in West Street to Blossom Street.....	8,020 53
Middlesex Street, from the terminus of the sewer formerly laid north from Wilder Street, northerly, a distance of 123.7 feet.....	226 98
Phillips Street, from the terminus of the sewer formerly laid, northerly, a distance of 163.3 feet.....	329 51
Shaffer Street, from the terminus of the sewer formerly laid, southerly, a distance of 117.4 feet.....	103 87
Sheldon and Gates Streets, from the terminus of the sewer formerly laid at Royal Street, westerly in Sheldon Street to Gates Street, northerly in Gates Street, a total distance of 511.6 feet.....	703 26
Swan Avenue, from the present sewer in Bachelder's Place, northerly and westerly a distance of 243.8 feet.....	1,187 72
Walden Street, from the present sewer in Oakland Street, westerly a distance of 287 feet.....	412 78
Total cost of sewers constructed in 1893.....	\$114,606 69
Cost of sewers constructed previous to 1893.....	1,713,081 84
Total cost of construction of sewers to Jan. 1, 1894	<u>\$1,827,688 53</u>

RENTS OF BUILDINGS OWNED BY THE CITY.

From Commonwealth, Armory.....	\$1,700 00
County of Middlesex, Police Court Rooms..	750 00
Carleton & Hovey, store in City Hall Building,	1,200 00
Jonathan Bowers, store in City Hall Building,	900 00
	\$4,550 00

LANDS AND BUILDINGS FOR WHICH THE CITY PAYS RENT.

To Boston & Lowell Railroad Co., for ground rent of Huntington and Jackson Halls.....	\$475 00
Proprietors of Locks and Canals on Merrimack River, for rent of land.....	331 00
	\$806 00

DAVID CHASE,
Auditor.

ACCOUNT OF THE CITY TREASURER AND COLLECTOR
OF TAXES FOR THE YEAR 1893.

LOWELL, MASS., Jan. 1, 1894.

TO THE HONORABLE, THE CITY COUNCIL:

Gentlemen — I have the honor to submit the following report of the receipts and expenses of the City of Lowell for the financial year 1893:

Respectfully submitted,

AUSTIN K CHADWICK,
City Treasurer.

City of Lowell, in account with Austin K. Chadwick, City

DR.		For cash paid on account of:
Schools.....	\$226,015	00
School-houses.....	55,821	69
Streets.....	132,647	80
Reserved Fund.....	91,499	45
Paupers.....	86,965	82
Police.....	104,682	95
Fire Department.....	141,818	95
Sewers.....	106,070	39
Commons.....	15,806	14
Lighting.....	69,035	46
Public Buildings.....	20,334	35
Library.....	18,221	84
Health.....	49,426	54
Water Works.....	211,901	86
Printing.....	7,664	99
Pawtucket Boulevard.....	10,637	07
Paving.....	35,367	27
Salaries.....	30,515	00
Interest.....	96,536	45
State Aid.....	13,791	00
State Aid Indigent Soldiers and Sailors.....	5,153	00
Taxes of 1889.		
Taxes of 1890.		
Taxes of 1891.		
Taxes of 1892.		
Taxes of 1893.		
City Debt.....	282,800	00
Abatement of Taxes.....	536	64
Temporary Loans.....	448,900	00
County Tax.....	57,751	55
National Bank Tax.....	22,158	68
State Tax.....	75,639	29
City Hall and Memorial Building....	138,415	04
City Cemeteries.....	9,336	23
Ordinary City Debt Sinking Fund....	56,555	62
Chelmsford Street School.....	33,596	32
Oakland School.....	10,139	08
High School Building.....	72,946	48
New Buildings at City Farm.....	13,212	00
Driven Well Plant.....	62,099	92
Addition to Butler School.....	9,577	73
<i>Amount carried forward.....</i>		<i>\$2,823,577 60</i>

Treasurer and Collector of Taxes for the Financial year 1893.

By cash received on account of

CR.

Schools.....	\$ 26,231 69
School-houses.....	23,875 78
Streets.....	41,169 57
Reserved Fund.....	128,221 06
Paupers....	30,563 89
Police.....	29,550 30
Fire Department.....	30,650 58
Sewers.....	98,500 99
Commons.....	1,355 00
Lighting.....	8,423 22
Public Buildings.....	3,385 60
Library	3,770 66
Health.....	12,063 15
Water Works.....	204,238 96
Printing.....	
Pawtucket Boulevard.....	9,912 37
Paving.....	36,850 69
Salaries.....	
Interest....	17,982 50
State Aid.....	15,203 00
State Aid, Indigent Soldiers and Sailors	3,135 00
Taxes of 1889.....	17 47
Taxes of 1890.....	269 49
Taxes of 1891.....	33,550 40
Taxes of 1892.....	99,914 73
Taxes of 1893.....	971,072 78
City Debt.....	116,000 00
Abatement of Taxes.....	
Temporary Loans.....	502,000 00
County Tax.....	
National Bank Tax.....	4,864 54
State Tax.....	
City Hall and Memorial Building....	1 00
City Cemeteries.....	6,539 47
Ordinary City Debt Sinking Fund...	63,276 81
Chelmsford Street School.....	6 24
Oakland School.....	40 00
High School Building.....	16,805 92
New Buildings at City Farm.....	
Driven Well Plant.....	8,233 40
Addition to Butler School.....	25,000 00
Centralville Main Sewer.....	40,000 00

Amount brought forward.....\$2,612,676 26

City of Lowell, in account with Austin K. Chadwick, City
 Dr. For cash paid on account of

Amount brought forward..... \$2,823,577 60

Centralville Main Sewer.....	23,602 79
Removal of Railroad in Moody Street.	17,000 00
Water Loan Sinking Fund.....	16,590 00
Watering Streets.....	17,380 99
Water Loan Sinking Fund "Old Loan".....	15,000 00
High Service Sinking Fund.....	1,800 00
High School Sinking Fund.....	3,000 00
Intercepting Sewer Sinking Fund....	5,000 00
City Hall and Memorial Building Sink- ing Fund.....	7,500 00

Cash balance Jan. 1, 1894.....

\$2,930,451 38
 45,575 99

\$2,976,027 37

Treasurer and Collector of Taxes, for the Financial Year 1893.

By cash received on account of

CR.

Amount brought forward.....\$2,612,676 26

Removal of Railroad in Moody Street 17,000 00

Water Loan Sinking Fund..... 590 00

Watering Streets..... 18,322 69

Water Loan Sinking Fund, "Old
Loan"..... 15,000 00

High Service Sinking Fund.....

High School Sinking Fund.....

Intercepting Sewer Sinking Fund....

City Hall and Memorial Building Sink-
ing Fund.....

Cash balance Jan. 1, 1893.....

————— \$2,663,588 95

312,438 42

\$2,976,027 37

CITY OF LOWELL.

IN COMMON COUNCIL, January 9, 1894.

Read and referred to the Joint Standing Committee on Accounts. Sent up for concurrence.

FRANK J. SIMONDS, Clerk.

IN BOARD OF ALDERMEN, January 12, 1894.

Read and referred in concurrence.

MICHAEL J. DOWD, City Clerk.

STATEMENT OF THE CITY TREASURER RELATING TO
SPECIAL FUNDS FOR CARE OF PUBLIC
BURIAL GROUNDS.

LOWELL, MASS., January 1, 1894.

TO THE HONORABLE, THE CITY COUNCIL OF THE CITY OF LOWELL:

Gentlemen — I have the honor to submit the following statement of special funds in my hands, deposited for the perpetual care of lots in the public burial grounds of the City of Lowell:

On hand Jan. 1, 1893.....

Received during year:

From Harlan P. Goodell, Executor..	\$100 00
Edward W. Thomas, Executor.	100 00
Betsy McWade.....	200 00
Susan Murray.....	100 00
Alzeria S. Smothers.....	100 00
Alzeria S. Smothers, Adminis- tratrix.....	100 00
Almena E. Farrington	75 00
George Clark.....	300 00
Sarah N. Heald.....	100 00
Julia A. Ames.....	75 00
Mary S. Danforth, Adminis- tratrix.....	100 00
Lovicy A. Dame.....	100 00
Hannah S. Painter.....	100 00
T. P. Hall, Executor.....	100 00
Mary E. Greenleaf.....	100 00
Ella M. Whiteside, Executrix.	100 00
Lydia Selfe.....	100 00

Total receipts..... \$1,950 00

The above amount is invested as follows:

Deposited in Lowell Institution for Savings.....	\$1,450 00
Deposited in Mechanics Savings Bank.	500 00
	<u>\$1,950 00</u>

Respectfully submitted,
AUSTIN K. CHADWICK,
City Treasurer.

CITY OF LOWELL.

IN COMMON COUNCIL, January 9, 1894.

Read and referred to the Joint Standing Committee on Accounts. Sent up for concurrence.

FRANK J. SIMONDS, Clerk.

IN BOARD OF ALDERMEN, January 12, 1894.

Read and referred in concurrence.

MICHAEL J. DOWD, City Clerk.

REPORT OF THE COMMISSIONERS OF SINKING FUNDS FOR THE YEAR 1893.

LOWELL, MASS., Jan. 1, 1894.

TO THE HONORABLE, THE CITY COUNCIL, OF THE CITY OF LOWELL :

Gentlemen—The Commissioners of Sinking Funds of the City of Lowell have the honor to submit the following report of the several Sinking Funds of said city, and of the Hapgood Wright Centennial Trust Fund for the year 1893 :

Full value of all Sinking Funds, Jan. 1, 1894.....		\$512,563 81
Full value of all Sinking Funds, Jan. 1, 1893.....		383,734 68
Increase during 1893.....		<u>\$128,829 13</u>
Value of Water Loan Sinking Funds, Jan. 1, 1894.....	\$167,497 70	
Value of Water Loan Sinking Funds, Jan. 1, 1893.....	128,232 57	
Increase during 1893.....		<u>\$39,265 13</u>
Value of all other Sinking Funds, Jan. 1, 1894.....	\$345,066 11	
Value of all other Sinking Funds, Jan. 1, 1893.....	255,502 11	
Increase during 1893.....		<u>\$89,564 00</u>
Total increase as above.....		<u>\$128,829 13</u>

272 REPORT OF THE COMMISSIONERS OF SINKING FUNDS.

Value of Hapgood Wright Centennial Trust Fund, Jan 1, 1894.....	\$2,133 31
Value of Hapgood Wright Centennial Trust Fund, Jan. 1, 1893.....	2,028 42
Increase during 1893.....	\$104 89

A statement of the receipts, payments and present value, and a list of the securities of each Sinking Fund, follows:

REPORT OF THE COMMISSIONERS OF SINKING FUNDS. 273

	Securities.	Cash.	Total.
Water Loan Sinking Fund.			
On hand Jan. 1, 1893.....	\$62,500 00	\$18,623 92	
Received during 1893:			\$81,123 92
Cash— Annual appropriation.....		16,000 00	
Income on investments.....		3,045 00	
Income on bank deposits... ..		744 77	
Premium on bonds sold.....		590 00	
	\$62,500 00	\$39,003 69	
Paid during :1893.....	.....	.....	
On hand Jan. 1, 1894.....	\$62,500 00	\$39,003 69	\$101,503 69
Increase during 1893.....			<u>\$20,379 77</u>
Securities belonging to this Fund:			
1 Town of Everett note, 7 per cent.....	\$26,000 00		
25 Town of Wayland coupon bonds, \$1000, 5 per cent.....	25,000 00		
3 City of Springfield coupon bonds, \$1000, 6 per cent..	3,000 00		
4 City of Lewiston coupon bonds, \$1000, 5 per cent.	4,000 00		
2 City of Cambridge coupon bonds, \$1000, 6 per cent.....	2,000 00		
1 City of Portsmouth coupon bond, \$1000, 4 per cent.....	1,000 00		
1 City of Portsmouth coupon bond, \$1500, 4 per cent.....	1,500 00		\$62,500 00
Cash on deposit in Lowell Trust Co., Lowell, 3½ per cent.....			\$39,003 69
Total.....			<u>\$101,503 69</u>
High Service Water Loan Sinking Fund.			
On hand Jan. 1, 1893.....	\$20,500 00	\$2,535 28	\$23,035 28
Received during 1893:			
Cash— Annual appropriation.....		1,800 00	
Income on investments.....		990 00	
Carried forward.....	\$20,500 00	\$5,325 28	\$23,035 28

274 REPORT OF THE COMMISSIONERS OF SINKING FUNDS.

	Securities.	Cash	Total.
<i>Brought forward</i>	\$20,500 00	\$5,325 28	\$23,035 28
Income on bank deposits.....		\$156 18	
Securities matured and paid.....		\$1,000 00	
	\$20,500 00	\$6,481 46	
Paid during 1893:			
Securities matured and paid.....	1,000 00		
On hand Jan. 1, 1894.....	\$19,500 00	\$6,481 46	25,981 46
Increase during 1893.....			\$2,946 18
Securities belonging to this Fund:			
2 Town of Beverly coupon bonds, \$1000, 4 per cent.....	\$2,000 00		
4 City of Providence coupon bonds, \$1000, 5 per cent.....	4,000 00		
8 City of Providence coupon bonds, \$1000, 5 per cent.....	8,000 00		
1 City of Cambridge coupon bond, \$1000, 6 per cent.....	1,000 00		
4 Town of Danvers coupon bonds, \$1000, 5 per cent.....	4,000 00		
1 Town of Pawtucket coupon bond, \$500, 5 per cent.....	500 00		\$19,500 00
Cash deposited in Lowell Trust Co., Lowell, 3½ per cent.....			6,481 46
Total.....			\$25,981 46
Water Loan (Old Debt) Sinking Fund.			
On hand Jan. 1, 1893.....		\$24 073 37	\$24,073 37
Received during 1893:			
Cash — Annual appropriation.....		15,000 00	
Income on bank deposits.....		939 18	
On hand Jan. 1, 1894.....		\$40,012 55	40,012 55
Increase during 1893.....			\$15,939 18
Securities belonging to this Fund:			
Cash on deposit in Lowell Trust Co., Lowell, at 3½ per cent..			\$40,012 55

REPORT OF THE COMMISSIONERS OF SINKING FUNDS. 275

	Securities.	Cash.	Total.
City Hall and Memorial Building Sinking Fund.			
On hand Jan. 1, 1893.....	\$19,500 00	\$19,953 05	\$39,453 05
Received during 1893:			
Cash — Annual appropriation.....		7,500 00	
Income on investments.....		810 00	
Income on bank deposits.....		751 41	
Bonds matured and paid.....		1,500 00	
	\$19,500 00	\$30,514 46	
Paid during 1893:			
Securities matured and paid.....	1,500 00		
On hand Jan. 1, 1894.....	\$18,000 00	\$30,514 46	\$48,514 46
Increase in this Fund during 1893.....			\$9,061 41
Securities belonging to this Fund:			
12 City of Portland coupon bonds, \$1000, 6 per cent.....	\$12,000 00		
4 City of Chelsea coupon bonds, \$1000, 6 per cent.....	4,000 00		
2 City of Manchester coupon bonds, \$1000, 6 per cent.....	2,000 00		18,000 00
Cash on deposit in Lowell Trust Co., Lowell, 3½ per cent....			30,514 46
Total.....			\$48,514 46
Sinking Fund for the Reduction of the Ordinary City Debt.			
On hand Jan. 1, 1893.....	\$136,000 00	\$17,944 66	\$153,944 66
Received during 1893:			
Cash — Income on investments.....		7,315 00	
Income on bank deposits.....		1,255 25	
National bank tax.....		4,669 70	
Corporation tax.....		56,171 30	
Carried forward.....	\$136,000 00	\$87,355 91	\$153,944 66

276 REPORT OF THE COMMISSIONERS OF SINKING FUNDS.

	Securities.	Cash.	Total.
<i>Brought forward</i>	\$136,000 00	\$87,355 91	\$153,944 66
Securities matured and paid.....		7,000 00	
	\$136,000 00	\$94,355 91	
Paid during 1893:			
Securities matured and paid.....	7,000 00		
On hand Jan. 1, 1894.....	\$129,000 00	\$94,355 91	223,355 91
Increase in this Fund during 1893.....			\$69,411 25
Securities belonging to this Fund:			
24 City of Lawrence coupon bonds, \$1000, 6 per cent.....	\$24,000 00		
1 City of Keene coupon bond, \$500, 4 per cent.....	500 00		
2 Town of Arlington coupon bonds, \$1000, 5 per cent.....	2,000 00		
7 City of Providence coupon bonds, \$1000, 5 per cent.....	7,000 00		
3 City of Newton coupon bonds, \$1000, 5 per cent.....	3,000 00		
37 City of Bangor coupon bonds, \$1000, 6 per cent.....	37,000 00		
4 City of Bangor coupon bonds, \$500, 6 per cent.....	2,000 00		
1 City of Lynn coupon bond, \$1000, 6 per cent.....	1,000 00		
3 City of Portland coupon bonds, \$1000, 6 per cent.....	3,000 00		
1 State of Rhode Island reg. bond, \$3000, 6 per cent.....	3,000 00		
41 Town of Pawtucket coupon bonds, \$500, 5 per cent.....	20,500 00		
2 City of Springfield coupon bonds, \$1000, 6 per cent.....	2,000 00		
1 City of Somerville coupon bonds, \$1000, 5 per cent.....	1,000 00		
7 City of Lawrence coupon bonds, \$1000, 6 per cent.....	7,000 00		
1 City of Lawrence coupon bond, \$5000, 6 per cent.....	5,000 00		
1 City of Keene coupon bond, \$1000, 6 per cent.....	1,000 00		
1 City of Cambridge coupon bond, \$1000, 6 per cent.....	1,000 00		
2 Town of Wilton coupon bonds, \$500, 6 per cent.....	1,000 00		
2 City of Fall River coupon bonds, \$1000, 6 per cent.....	2,000 00		
1 Town of Bedford note, \$6000, 5 per cent.....	6,000 00		\$129,000 00
Cash deposited in Lowell Trust Co., Lowell, 3½ per cent.....		94,143 21	
Cash deposited in Mechanics Savings Bank, 4 per cent... ..		212 70	
Total.....			\$223,355 91

REPORT OF THE COMMISSIONERS OF SINKING FUNDS. 277

	Securiteis.	Cash.	Total.
Intercepting Sewer Sinking Fund.			
On hand Jan. 1, 1893.....	\$48,700 00	\$6,481 67	\$55,181 67
Received during 1893:			
Cash — Annual appropriation.....		5,000 00	
Income on investments.....		2,476 00	
Income on bank deposits.....		313 63	
Securities matured and paid.....		200 00	
	\$48,700 00	\$14,471 30	
Paid during 1893:			
Securities matured and paid.....	200 00		
On hand Jan. 1, 1894..	\$48,500 00	\$14,471 30	\$62,971 30
Increase in this Fund during 1893.....			7,789 68
Securities belonging to this Fund:			
4 City of Providence reg. bonds, \$10,000, 5 per cent.....	40,000 00		
3 City of Providence reg. bonds, \$1000, 5 per cent....	3,000 00		
1 City of Providence coupon bond, \$1000, 5 per cent.....	1,000 00		
1 State of New Hampshire bond, \$500, 6 per cent.....	500 00		
8 City of Manchester coupon bonds, \$500, 6 per cent.....	4,000 00		48,500 00
Cash deposited in Lowell Trust Co., Lowell, 3½ per cent.....			14,471 30
Total.....			\$62,971 30
High School Sinking Fund.			
On hand Jan. 1, 1893.....	\$3,500 00	\$3,422 73	\$6,922 73
Received during 1893:			
Cash — Annual appropriation.....		3,000 00	
Income on investments.....		170 00	
Income on bank deposits.....		131 71	
On hand Jan. 1, 1894,.....	\$3,500 00	\$6,724 44	\$10,224 44
Increase during 1893.....			\$3,301 71

278 REPORT OF THE COMMISSIONERS OF SINKING FUNDS.

	Securities.	Cash.	Total.
Securities belonging to this Fund:			
1 City of Keene coupon bond, \$500, 4 per cent.....	\$500 00		
1 City of Salem coupon bond, \$1000, 5 per cent.....	1,000 00		
1 City of Lynn coupon bond, \$1000, 5 per cent.....	1,000 00		
1 Town of Arlington coupon bond, \$1000, 5 per cent.....	1,000 00		\$3,500 00
Cash deposited in Lowell Trust Co., Lowell, 3% per cent.....			6,724 44
Total			<u>\$10,224 44</u>
Hapgood Wright Centennial Trust Fund.			
On hand Jan. 1, 1893.....		\$2,028 42	\$2,028 42
Received during 1893:			
Cash — Interest on bank deposits... ..		104 89	
On hand Jan. 1, 1894.....		\$2,133 31	\$2,133 31
Increase during 1893.....			<u>\$104 89</u>
Securities belonging to this Fund:			
Cash deposited in Lowell Institution for Savings			\$440 38
Cash deposited in City Institution for Savings.....			1,692 93
			<u>\$2,133 31</u>

Respectfully submitted,

PETER F. CONATON,	} Commissioners of Sinking Funds
HENRY G. CUSHING,	
JOHN H. COFFEY,	
	of the City of Lowell
	for the year 1893.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, January 16, 1894.

Received and referred to the Joint Committee on Accounts. Sent down for concurrence.

MICHAEL J. DOWD, City Clerk.

IN COMMON COUNCIL, January 23, 1894.

Received and referred in concurrence.

FRANK J. SIMONDS, Clerk.

REPORT OF JOINT STANDING COMMITTEE ON ACCOUNTS.

TO THE CITY COUNCIL :

The Joint Committee on Accounts of the City Council of the City of Lowell, to whom was referred the Accounts of the City Treasurer and Commissioners of Sinking Funds, for the financial year ending December 31, 1893, have attended to the business committed to them, and report :

The Joint Standing Committee on Accounts of the City Council of the City of Lowell, for the year 1894, have made, with the assistance of Mr. Fred. C. Sanborn, expert accountant, of Lowell, a thorough examination of the accounts of the City Treasurer and of the Commissioners of Sinking Funds, for the financial year ending December 31, 1893, and find them to be correct. We herewith submit the report of Mr. Sanborn, the accountant, all of which is respectfully submitted.

GEORGE E. STANLEY, W. A. DICKINSON, JOHN J. O'CONNOR, JOHN OLIVER,	{ Committee.
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REPORT OF ACCOUNTANT.

LOWELL, MASS., March 6, 1894.

TO GEO. E. STANLEY, ESQ., Chairman of the Committee on
Accounts of the City of Lowell, Mass. :

Sir :—Acting under the instructions of your committee, I have examined the accounts of the City Treasurer, and the Commissioners of Sinking Funds, for the City of Lowell, and I have the honor to report as follows :

The books of the City Treasurer, examined by me, consist of a cash book, with a draft book, so called, and a number of desk books for water rates and taxes, two of each for each year, about ten in all, as supplementary books, a journal and ledger, also a list of money paid for perpetual care of lots in the city cemetery.

Draft Book.—On this book are entered the regular monthly bills of the city, the weekly pay-rolls, teachers' pay-rolls, and some few other items. The pay-rolls I have added and found them correct, the payments signed for either by the individual or the payment witnessed by a member of the department in which the person paid was employed, as well as attested by the paymaster. The payments for bills are properly vouched, and both bills and pay-rolls are approved by the several committees in charge of the departments, as well as by your committee on accounts. The totals of this book go to the credit side of the Cash Book, and these totals are exact and properly entered. All other items on the credit side of the Cash Book seem to be properly vouched and the footings correct. The payments for State Aid and Indigent Soldiers and Sailors are entered in a book like a pay-roll, and these books I have examined and find the payments properly vouched and the books correctly added. The books in which the receipts of water and tax rates, as well as the two rate books for the tax for watering streets, are entered, have been added by me and the footings are correct and correctly carried to the debit side of the Cash Book. The other items on this side of the Cash Book seem to be correctly entered. I have obtained from most of the departments their receipts for money paid to the Treasurer, and find these receipts

agree with his entries. I looked about me for some way to prove that all notes signed by the Finance Committee had been properly entered on the Cash Book, but found no such proof, and neither the City Auditor nor City Treasurer suggested any way of proving it. I would suggest that all notes of the City of Lowell be countersigned by the City Auditor, and that he keep a record of these notes in some suitable book, which may be compared from time to time with the book of the Treasurer. Many items on this side of the Cash Book, however, it is impossible to check, as we do not know of them till we find them. The time allowed your Accountant is not sufficient to enable him to go to the various departments and find if all charges have been satisfied. The footings on this side of the Cash Book are correct, and the items properly carried to the Journal.

Journal.—In this book the receipts and expenditures are entered from the Cash and Draft Books and posted to the Ledger. It seems to me most of these items could be posted direct from the Cash and Draft Book to the Ledger, especially with the aid of the sheets which are now prepared in addition to this posting to the Journal. Press copies of the sheets prepared for the Auditor could also be taken, if needful. This would do away with the labor of doing this copying by hand, a labor which must take considerable time. The postings from this book to the Ledger are correct and the footings of the Journal exact.

Ledger.—The items from the Journal are entered on this book. The footings and balances are correct and as per the Treasurer's report. The list of what we may term the Perpetual Care Funds agrees with the stubs of the receipts given when payments are made for these funds.

Sinking Funds.—I have examined the books of these funds and find the interest has been properly entered, and in company with the Sinking Fund Commissioners and the Treasurer I visited the Appleton Bank and saw the various securities.

One note of \$26,000.00 has been paid since January 1.

Kindly permit me to thank, through you, Treasurer Chadwick and his assistants and Auditor Chase for their kind and valuable assistance. It seemed to be the desire of all that I should make as thorough an examination as possible of the accounts.

Statements of balances are attached.

I have the honor to be, Sir,

Your most obedient servant,

FRED SANBORN.

ACCOUNTANT'S REPORT.

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STATEMENT OF BALANCES.

Cash on hand Jan. 1, 1893, as per report.....	\$312,438 42
Receipts for twelve months ending Dec. 30, 1893..	2,663,588 95
	<u>\$2,976,027 37</u>
Payments	2,930,451 38
	<u>\$45,575 99</u>
Balance cash on hand Jan. 1, 1894.....	

CASH BALANCE AT CLOSE OF BUSINESS JAN. 31, 1894.

Cash balance Jan. 1, 1894.....	\$45,575 99
Receipts for January, 1894.....	48,365 27
	<u>\$93,941 26</u>
Payments.....	54,710 78
	<u>\$39,230 48</u>
Cash in Trust Co., as per their report..	\$42,009 45
Checks outstanding as reported.....	7,762 48
	<u>\$34,246 97</u>
Item of interest not on cash book....	2,235 46
	<u>\$32,011 51</u>
Deposit of Jan. 31, credited at bank	
Feb. 1.....	2,887 63
	<u>\$34,899 14</u>
Cash on hand in office as	
per actual count.....	\$3,066 60
State Aid and I. S. and S.	
Fund put up but not	
paid	1,633 00
	<u>\$4,699 60</u>
Received after 12 M. and	
charged to February	
account	368 30
	<u>\$4,331 30</u>
Error in cash.....	04
	<u>\$4,331 34</u>
	<u>\$39,230 48</u>

PERPETUAL CARE FUND.

Cash received on account of this Fund to Jan. 1, 1894.....		\$1,950 00
Cash received on account of this Fund since Jan. 1, 1894.....		150 00
		\$2,100 00
Deposited in Lowell Institution for Savings, as per book	\$1,350 00	
Deposited in Mechanics Savings Bank, as per book.....	750 00	
		\$2,100 00

SINKING FUNDS JAN. 1, 1894.

Value of securities at Appleton National Bank.....	\$281,000 00
Cash at Lowell Trust Co.....	231,351 11
Deposit at Mechanics Savings Bank.....	212 70

Total value of Sinking Funds Jan. 1, 1894.... \$512,563 81

Since January 1 a note of the Town of Everett for \$26,000.00 in the Water Loan has been paid and this amount has been deposited with the Lowell Trust Co.

Value of the Hapgood Wright Fund..... \$2,133 31

Respectfully submitted,

FRED SANBORN.

LOWELL, MASS., March 6, 1894.

LOWELL TRUST COMPANY, }
 LOWELL, MASS., March 3, 1894. }

FRED SANBORN, ESQ., Accountant:

Dear Sir:—In accordance with your request, I beg to state that there was standing to the credit of the City of Lowell, in this Bank, at the close of business, January 31, 1894, the sum of \$42,009.45.

Very truly,
 GEO. M. HARRIGAN,
Actuary.

LOWELL TRUST COMPANY, }
 LOWELL, MASS., March 3, 1894. }

COMMISSIONERS OF SINKING FUNDS, LOWELL:

Gentlemen:—There was standing to your credit the following amounts in the several accounts in this Bank, at the close of business, January 1, 1894:

City Hall and Memorial Building.....	\$30,514 46
High Service Water.....	6,481 46
High School Account.....	6,724 44
Ordinary City Debt Account.....	94,143 21
Water Loan, "Old Debt".....	40,012 55
Intercepting Sewer.....	14,471 30
Water Loan.....	39,003 69
Total.....	<u>\$231,351 11</u>

Very truly,
 GEO. M. HARRIGAN,
Actuary.

IN BOARD OF ALDERMEN, March 6, 1894.

Read and accepted; sent down for concurrence.

MICHAEL J. DOWD, *City Clerk*.

IN COMMON COUNCIL, March 13, 1894.

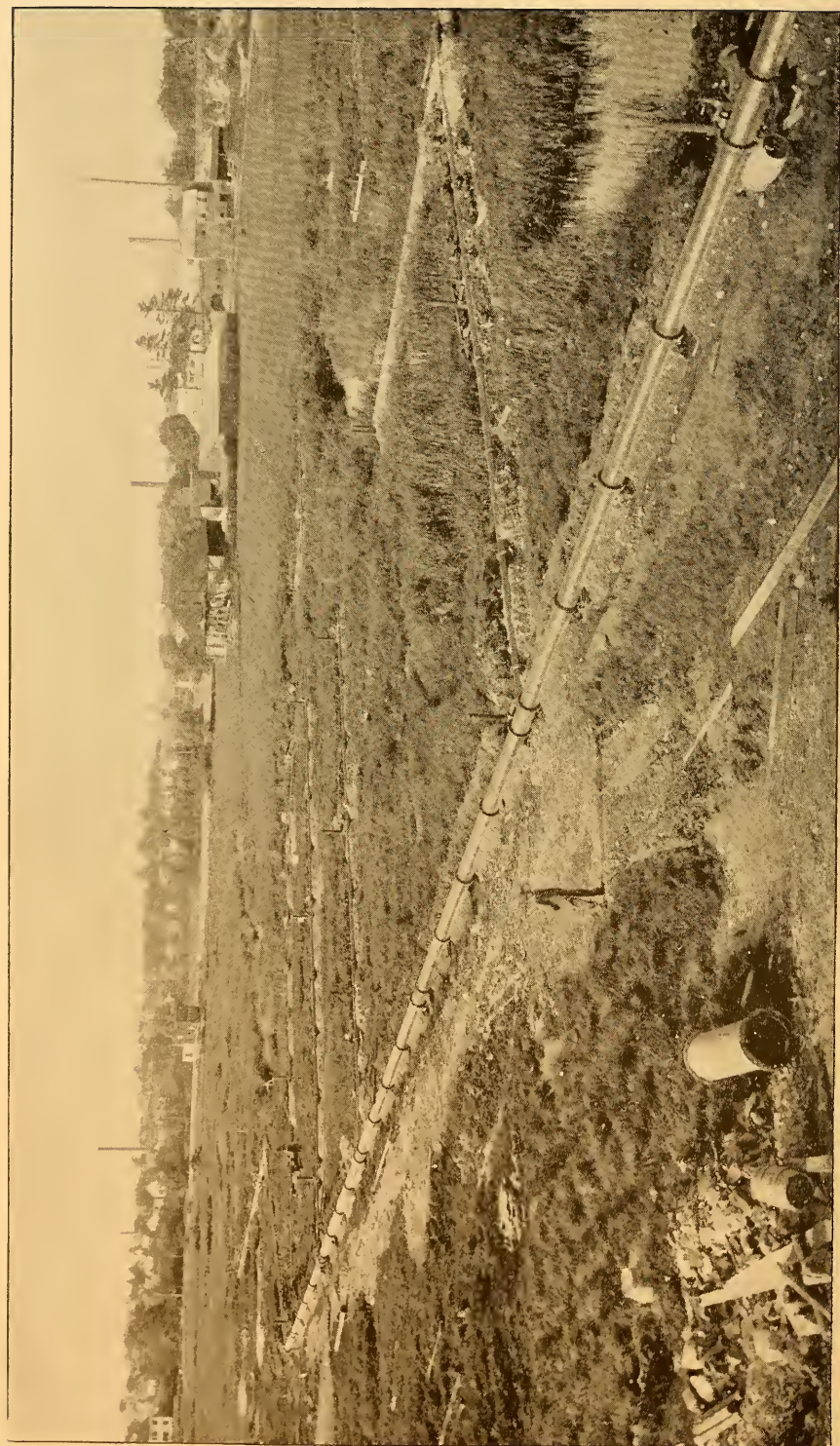
Read and accepted in concurrence.

FRANK J SIMONDS, *Clerk*.

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WELL PLANT NORTH OF PUMPING STATION. (SEE ENGINEER'S REPORT.)

TWENTY-FIRST

AUNUAL REPORT

OF THE

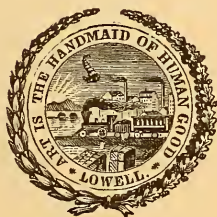
LOWELL WATER BOARD

TO THE

CITY COUNCIL OF THE CITY OF LOWELL, MASS.,

AND THE

REPORTS OF THE SUPERINTENDENT OF WATER WORKS AND
OF THE CITY ENGINEER TO THE WATER
BOARD FOR 1893.



LOWELL, MASS.:

VOX POPULI PRESS: S. W. HUSE & CO.

1894.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, Jan. 12, 1894.

Received and ordered on file; sent down for concurrence.

MICHAEL J. DOWD, *City Clerk*.

IN COMMON COUNCIL, Jan. 23, 1894.

Received and ordered on file, in concurrence.

FRANK J. SIMONDS, *Clerk*.

WATER DEPARTMENT, 1893.

WATER BOARD:

MILES F. BRENNAN, *President.*

Term expires second Monday in March, 1895.

ARTHUR F. SALMON,

Term expired second Monday in March, 1893.

RICHARD B. ALLEN,

Term expires second Monday in March, 1896.

JAMES W. CASSIDY,

Term expired first Monday in January, 1893.

(Or upon election of successors.)

CHARLES L. KNAPP, *Secretary and Clerk.*

ROBERT J. THOMAS, *Superintendent.*

GEORGE BOWERS, *City Engineer.*

DANIEL HART, JR., *Engineer.*

WALTER P. WILEY, *Meters.*

THOMAS McLoughlin, *Asst. Engineer.*

D. B. H. BARTLETT, *Foreman Shop.*

FRANK LAPOINT, *Reservoir.*

A. F. COGER, *Hydrants and Gates.*

THOMAS F. DOYLE, *Foreman.*

THOMAS ROGERS, *Services.*

WILLIAM JOYCE, *Asst. Foreman.*

OFFICE:

LEONARD T. FARRIS, *Service Clerk.*

MARY G. SAWYER, *Bookkeeper.*

GERTRUDE W. BYAM, *Assistant Bookkeeper.*

Inspectors:

ROBERT GARDNER, JR.

MICHAEL H. McCUE.

GEORGE E. WORTHEN.

GEORGE F. TILTON.

REPORT OF THE WATER BOARD.

OFFICE OF THE WATER BOARD,
CITY HALL,

LOWELL, MASS., JAN. 9, 1894.

*To His Honor the Mayor and the City Council of
the City of Lowell:*

The Water Board herewith submits its report for the year ending Dec. 31, 1893.

The membership has continued the same as the year previous, owing to the failure of the City Council to fill vacancies caused by expiring terms of office, save that Edward W. Thomas, who was elected to serve until the second Monday in March, 1894, resigned, the same taking effect Feb. 3, 1893. The organization also has continued as in 1892, with Miles F. Brennan, President, Charles L. Knapp, Secretary and Clerk.

At a meeting of the Board, held March 13th, Robert J. Thomas was unanimously re-elected Superintendent of Water Works.

No change has taken place in the personnel of the Water Works forces, save the voluntary retirement of Inspector John J. Bancroft after nineteen years' continuous service. The retention of Mr. Bancroft during this long period is ample proof of the value of services rendered the Water Works Department.

As in past years the volume of business of the Water Works has continued to steadily increase, though the reduction made during the year in rates charged prevents the publishing comparative figures. The total charges of the year were \$236,175.85, of which \$215,679.92 was charged for water. The total expenditures, including \$88,825.00 interest and principal payments, were \$211,901.86. This, it will be understood, does not include expenditures from the Driven Wells Fund for well work, save the amount of \$10,000.00 annual payment on Driven Wells Loan. The net receipts credited Water Works were \$204,238.96. The balance to credit of Water Works Jan. 1, 1894, is \$21,347.60.

Of the \$100,000 provided by the City Council of 1892, to be paid by Water Works in ten years, and authorized to be expended in the effort to provide a partial supply of ground water for the City, there has been expended \$61,552.52. The Water Works has paid Driven Wells account \$1,685.00 for water furnished to Dec. 20, 1893, and also paid the same account \$5,996.20 for heavy iron pipe unused at wells, and originally purchased for Driven

Wells System, which leaves as balance to credit of Driven Well account, Jan. 1, 1894, \$46,128.68. For detail of the above results you will refer to tabular statements accompanying this report.

The out-door work of the Department, like that of the preceding year, has been very heavy. Notwithstanding the call upon the Department on account of work attending the construction of the Driven Wells System, the usual amount of street extension has been done, in fact no reasonable request for extension has been refused, and a great amount of work has been done in the line of improvement to the service by means of replacing small mains in streets where improvement in property has demanded it, also replacing hydrants at dangerous points with modern and most approved appliances. Detail of this work is of interest and is quite fully set forth in Superintendent Thomas' report to this Board, and which document accompanies and is a part of this report. The Superintendent is alive to the fact that what might pass for good and ample fire service ten years ago is not equal to possible and probable emergencies of to-day. Recognizing this fact, much has been done in two years to strengthen and better the Lowell fire service, and the existing management will continue in this line of doing the coming year.

In our report to the City Council one year ago, mention was made of the City having closed a contract with the Wheelock Engine Company, of

Worcester, Mass., for the rebuilding of the Morris Pumping Engine's steam end. The price for the completed work, as per contract, is \$8,140.00. Of this sum \$4,884.00 has been paid the Wheelock Engine Company, who after very tedious and trying delay, have pronounced the work finished. The engine has been under steam and furnished the pumping for several short periods, but as yet the work is not accepted by the City, inasmuch as the Wheelock Engine Company are not ready for the trial test specified by the contract. No more can be said at this time as the results developed by the test will be the only means of determining the character of the work and the good accomplished.

The Driven Well work near the City Farm will naturally call for most attention in our present report, and inasmuch as no official utterances have been made since the work was commenced, it is but reasonable for you to look for fullest statement at this time. Beside what follows, your attention is called to City Engineer Bowers' report to this Board upon the subject, and which we consider a part of our own report, and which is attached hereunto.

On the 24th of January, 1893, the City of Lowell entered into a contract with the Cook Well Company, of St. Louis, Mo., wherein the said Cook Well Company agreed, at their own proper cost and expense, to do all the work and furnish all

the materials called for to construct a tube well plant with all connections, suction mains, valves, and appurtenances, on or near the City Farm, all when complete to be ready for attachment to pumps, and to yield a supply of ground water equal in quantity to 5,000,000 U. S. gallons each and every day of twenty-four hours. The contractor further agreed to complete the work on or before June 1, 1893, unless prevented by unavoidable delays over which they had no control, the Water Board having the right, at their discretion, to extend the time of completion of the work. On condition of the faithful performance of the work, the City Engineer being the person to decide the point, the City of Lowell has agreed to pay the Cook Well Company the sum of \$24,250.00 in the following manner:—

After the wells have been constructed and temporary tests made on the number of wells that are deemed by the City Engineer to yield 5,000,000 gallons per day (twenty-four hours), twenty-five per cent. of the contract price is to be paid. After the wells are completed and pumped by the City for a period of thirty days, if found to deliver full amount of 5,000,000 gallons per day, and the water is found to be good and equal to quantity test specified, an additional payment of twenty-five per cent is to be paid. A third twenty-five per cent. of contract price is to be paid at the end of a three months' run with continued above results, and the final payment at the end of a year's trial, the

same trial test to apply till the end of that time. Such are the main features of the contract, to which are attached sureties guaranteeing the City's interest and safety.

As you are aware the Cook Well Company entered upon the work in the early spring. The nature of the territory in the valley of River Meadow Brook is familiar to you. The overflow of the brook was so great and continued so late in the spring that operations were delayed, in consequence of which it is fair to the Cook people to say, their work was not completed in contracted time. In July sufficient wells were sunk to yield on individual test an aggregate of over 7,000,000 gallons, following which (Aug. 10th) the first payment, \$6,062.50, was made by the City. Meanwhile it was decided that when pumping test should be commenced, the water should be utilized rather than pumped to waste into Brook. Two 3,000,000 gallon pumping engines were purchased of the Deane Steam Pump Company, they being lowest of three bidders. A temporary engine house was erected by the Lands and Buildings Department, two of the replaced boilers from Centralville Pumping Station were set, pipe mains were laid by Water Works forces, connecting through Plain Street with the pipe system of the City.

On Sept. 16th, all wells being grouped, the same were connected to the City's end of the work, and the pumps were started. Difficulties

with the new pumps and the trouble attending the leaking of air, were in a measure overcome within a day or two, when the pumps were given steam and have been run constantly since with practically no cessation in the pumping. The yield from the first has been 2,000,000 gallons daily or a trifle less than one-third the average daily consumption of the City. The quality, as attested by those of our citizens who have been so fortunate as to receive it, is excellent. On the authority of the State Board of Health it is excellent. Constant watch has been given to detect any evidence of deterioration in quality. None has appeared. Naturally it may be inferred that we, as a Board, are disappointed in the results as concerns quantity. None the less so are the Cook Well people. As soon as above results were established, the Cook forces then in the City were joined by H. F. Cook, President of the Company, and a thorough survey of the situation was made. As a result, Mr. Cook expressed himself more confident than ever that the desired quantity of water and more was at hand, but that his men had not made the wisest choice in location, a fact only to be determined after actual trial of ground by grouped well pumping. Up to this time the wells in the system numbered 44. Mr. Cook ordered more wells to be sunk at once and 15 more have been constructed and are now awaiting connection. How much the help of these wells will add to our present 2,000,000

remains to be seen. There are positive indications of much more water in the basin we are pumping from than the pumps are at present yielding. We are led to believe that it is only a matter of well drivers' science to overcome difficulties that prevent our controlling it. Let us hope that it is so and that the Cook Well Company's experience will result in their mastering the problem they are facing. The successful termination of the contract is of great consequence to the Cook Well Company, watched as is this work by water works' interests throughout the country. To us as a City the success of the undertaking means a benefaction of untold worth.

Incidental to the driven well operations, and anticipating possible future interests of the City, at the suggestion of the Water Board, His Honor Mayor Pickman appeared before the Legislature and asked for the passage of an act permitting the City of Lowell to seize land for Water Works purposes. That act was passed. No seizures of land have followed in connection with operations at the wells, although additional land has been acquired by purchase, satisfactory terms to all parties concerned being arrived at. In addition to what the City has owned in the region of River Meadow Brook, there has been purchased with Driven Well funds 2.56 acres of land from Alonzo P. Quimby, and 4 acres, 84 square rods, from Gratia A. Coburn, *et al.* The plant as now operated involves the use of both these pieces to a greater or less extent.

From Sept. 16th to Dec. 20th, noon, the City Engineer estimates the total amount of well water delivered into the City mains at 168,500,000 gallons. As the Water Works have been saved the expense of pumping this estimated amount into the reservoir it would seem right to credit Driven Wells account this amount at a price fair to the Water Works, a price considerably less than actual cost of pumping at the wells. This figure we set at \$10 per million gallons, a price considerably in advance of what it costs the City to pump water at the Centralville station. Such credit has been made and Water Works has paid to Driven Wells account the sum of \$1,685.00. The Water Works has also paid to Driven Wells account \$5,996.20 for 543,786 pounds iron pipe, the same being contained in original schedule of Driven Wells pipe, but being unused owing to changes made in the plan of running pipe mains. You will therefore give due consideration to this much of increase to yearly Water Works expenditures. You will further understand that the pipe is excellent property at the price paid for iron pipe at time of purchase, and is an article and of sizes we constantly use.

In this connection it may be said the Department has on hand an unusual supply of all sizes of cast-iron pipe and specials ($508\frac{1}{2}\frac{896}{46}$ tons), sufficient in all probability to meet the needs of 1894, save of 6-inch and possibly of 8-inch, and again we say it was bought at the lowest figures ever

paid by the City for pipe, and for this reason is good property—in fact an investment. We will say, too, that we are in full supply of coal both at the Centralville Station and at the wells, further mention of which is made in the Superintendent's report.

Mention has been made of a reduction in water rates made during the past year. The reduction referred to is one that applies to all users of city water through meters. The annual rate charges for water are specified by the City Ordinance; but the same ordinance specifies that the price for metered water shall be made by the Water Board. Under such privilege the changes were made. You will recall that previous to April 1, 1893, the price for metered water was fifteen cents per one hundred cubic feet for whatever quantity used, and the minimum amount charged for the same was the yearly charge of \$12. It has seemed right in other well-governed cities to sell large quantities of water at a less price than ordinary quantities, a principle recognized among all trades-people, and it seemed to us the proper course to adopt such custom in the sale of Lowell city water. The reduction in effect would benefit but very few of our citizens, hence that the benefit might be general it was voted to not only adopt a sliding scale of price according to quantity of water used, but also to make a general cut of one cent per one hundred cubic feet on all metered water. Still further to encourage the use

of meters among consumers, especially among small property owners, the minimum rate was reduced from \$12 to the annual charge of \$7. As modified, beginning with April 1, 1893, the metered water rates for the City of Lowell are as follows, and will compare more than favorably with any city in the country that pumps its water under the same conditions as the Lowell Water Works:—

The rate on water furnished through meters shall be based upon the quarterly consumption as follows: For all water consumed through a *single service pipe*, for first 20,000 feet, 14 cents per 100 feet; second 20,000 feet, 13 cents per 100 feet; third 20,000 feet, 12 cents per 100 feet, up to 300,000 feet, above which quantity 11 cents per 100 feet up to 1,000,000 feet, above which price may be fixed by the Water Board; provided, however, that in no case when a meter is used shall the annual charge be less than \$7 (5,000 feet at 14 cents), which minimum charge shall be payable in advance. Metered water for church-organ motors in places of public worship, twenty-five per cent. off above prices.

This with the ten per cent. discount on all bills for water, recommended by the Board, and voted by the City Council, is a very handsome benefit to consumers, one, too, shared by every class and without discrimination—a very essential requirement in public business. Our citizens seem to have appreciated the change, particularly small property

owners, a statement verified by the fact that from April 1st to Dec. 23d the department had placed 277 new meters, following property owners' applications.

The lessening of water rates having been made, we cannot refrain from going on record as to our motive in so doing. We can perhaps do this best by reiterating the words of the Committee from the Board, whose duty it was to submit a plan of re-visement, and who said, "We wish here, however, to emphasize one point. Any lessening of the income to the Lowell Water Works Department of the City of Lowell, which will follow the adoption of our recommendations, is not made by any reason whatever of any existing burden which the present rate entails. We state here that the Lowell rates of 1892 compare with any city far or near that pumps its water to storage. With the modifications recommended we do not call to mind a single city of this class whose rates are its equal. The lessening is permissible for the one reason alone—that for twenty years the Water Works Department of Lowell has been in good hands, carrying out an admirably-conceived scheme of finance and operation to what is to-day an admirable state of completion." And the same report still further says with truth, "You will find public opinion divided upon this matter. A conservative element doubts to-day the wisdom of even the ten per cent. discount of a year ago. They are the men who realize the

enormity of the work before you and involved in the problem of bettering the quality of the Lowell water supply. These men say nothing of 'cheap water,' but they are very earnest about 'good water.' With all due respect, however, to the opinions of these good men, we believe this further reduction can be afforded. The reduction with the modifications, will, we believe, bear good fruit."

Before leaving this subject we take occasion, our annual opportunity and one we have not neglected in several years, to remind you that important recommendations affecting the rates charged for water and embodying certain needed modifications of the schedule, are now on file with you, where they have been for several years, awaiting some action on the part of the City Council. The matters involved in these recommendations are of interest to the citizens, involving as they do matters of equity and right in their dealings with the City, through this department. We again earnestly call attention to our communication.

The present would seem the proper opportunity to mention our appreciation of the new quarters assigned the Water Department in the new City Hall. With the slight changes that you have permitted us to make since occupancy, we can frankly say our conveniences and those of the public with whom we are brought in contact are complete. We doubt if any Water Works in the country has superior office appliances and conveniences. We

have formerly been unable to properly care for books and records—a lamentable condition of affairs, but now we are enabled to do business in a manner satisfactory to ourselves and we trust to the general public.

MILES F. BRENNAN,
ARTHUR F. SALMON,
RICHARD^J B. ALLEN,
JAMES W. CASSIDY.

LOWELL WATER WORKS OFFICE,
Jan. 1, 1894.

LOWELL WATER BOARD:

Gentlemen,— Herewith are figures in tabular form detailing the charges, receipts, and expenditures on account of Water Works, for the year ending Dec. 31, 1893.

The tables which follow undertake to show you the detail, as far as a report occupying the space permitted can show, of everything that in a financial way is connected with the Water Works business of the City of Lowell for the year 1893, and which is respectfully submitted.

CHARLES L. KNAPP,
Clerk Lowell Water Board.

TABLE I.
FINANCIAL STATEMENT—LOWELL WATER WORKS, 1893.

CHARGES.					RECEIPTS.				
Water.			Other than Water.	Total Charges, 1893.	Total Charges, 1892.	By Accounts.			Due.
Rate.	Metered.	Total.				Receipts.	Discounts.	Abatements.	
Transfer.....	.....	.....	.....	\$ 23,470 98	\$ 26,458 55	\$ 20,483 69	\$ 2,010 25	\$ 503 27	\$ 473 77
January	\$ 228 08	\$ 372 30	\$ 600 38	\$ 1,156 59	1,159 01	1,073 13	55 83	27 63	.....
February	105 33	441 15	546 48	1,035 66	1,535 68	981 94	52 44	1 28	.....
March	108,877 99	24,615 41	133,493 40	.....	133,493 40	115,810 35	12,864 36	4,291 23	527 46
April	569 66	2,146 26	2,715 92	2,975 41	5,691 33	5,073 98	246 78	294 71	75 86
May	4,372 81	42 84	4,415 65	3,450 13	7,865 78	5,919 69	305 10	820 40	820 59
June.....	1,655 95	24,980 93	26,636 88	3,036 25	29,673 13	26,284 08	2,624 49	554 36	210 20
July	1,294 72	14 00	1,308 72	1,274 57	2,583 29	2,244 37	112 29	58 44	168 19
August	236 31	.....	236 31	1,104 40	1,340 71	1,227 93	19 04	52 47	41 27
September	783 44	22,304 96	23,088 40	1,939 99	25,028 39	20,437 89	2,067 01	182 97	2,340 52
October.....	530 28	.....	530 28	2,084 91	2,615 19	1,832 14	26 79	56 79	699 47
November	425 10	.....	425 10	1,457 27	1,882 37	486 05	13 31	8 41	1,374 60
December.....	552 26	20,130 14	20,682 40	3,127 61	22,570 73	2,307 92	2 15	.....	21,499 94
Totals	\$119,631 93	\$95,047 99	\$214,679 92	\$21,495 93	\$251,828 63	\$204,163 16	\$20,399 84	\$6,851 96	\$28,231 87

TABLE II.

FINANCIAL STATEMENT--LOWELL WATER WORKS, 1893.

TOTAL OUTGO.

	Pay Rolls and Salaries.	Water Works Supplies.	Interest and Principal.	Refunds and Vacancies	Reser- voir Dep't.	Stable Dep't.	General Expense Account.	Recharged and Collected.	Morris Engine Repairs.	Driven Well Water.	Totals.	
											1893.	1892.
January,	\$3,273 02	\$ 4,910 17	.....	\$224 18	.....	\$138 76	\$ 85 54	\$132 06	.....	.....	\$ 8,763 73	\$ 8,310 97
February,	3,164 11	3,735 05	\$ 9,300 00	94 81	.....	131 07	47 14	23 65	\$ 23 82	.....	16,519 65	11,224 88
March,	2,888 57	11,706 60	1,680 00	.....	.....	73 35	126 63	48 82	2,538 53	*\$1000 00	20,062 50	8,548 55
April,	4,364 93	5,347 79	1,625 00	12 79	.....	546 16	121 29	52 90	64 15	.....	12,135 01	18,146 71
May,	4,373 10	6,333 55	19,190 00	67 81	\$ 3 05	459 60	83 90	118 72	2,834 57	.....	33,464 30	36,966 99
June,	3,745 63	3,322 70	5,755 00	831 69	3 27	29 10	137 10	107 85	629 77	.....	14,562 11	22,774 94
July,	5,691 05	4,625 44	1,720 00	96 75	75 00	215 49	104 11	449 41	101 41	.....	13,078 66	11,546 83
August,	4,194 67	8,580 41	.....	66 58	70	73 40	95 97	200 25	105 93	.....	13,317 91	8,092 00
September,	4,641 22	1,530 54	960 00	147 96	58	77 54	118 56	.....	84 43	.....	7,560 83	10,670 04
October,	4,197 99	1,856 83	10,000 00	18 00	.....	86 23	427 33	117 85	66 79	.....	16,771 02	13,427 19
November,	3,691 63	936 40	34,370 00	173 48	60 70	209 04	284 56	18 86	6 08	.....	39,750 75	42,203 21
December,	3,091 61	6,538 58	4,225 00	96 38	.....	23 75	254 62	45	.....	1,685 00	15,915 39	10,995 31
Totals,	\$47,317 53	\$59,424 06	\$88,825 00	\$1,830 43	\$143 30	\$2,063 49	\$1,886 75	\$1,270 82	\$6,455 48	\$2,685 00	\$211,901 86	\$202,907 62

* Andrews & Brother, as per contract.

TABLE III.

FINANCIAL STATEMENT—LOWELL WATER WORKS, 1893.

SUBDIVISION CASH PAID FOR LABOR.

	Office and Inspectors.	New Meter Work.	Meter Repairs.	Extension and Construction Work.	Maintenance.	Reservoir.	New Services.	Repaid Services.	Morris Engine Repairs.	Recharged.	Salary of Prest and Sup't.	Pumping (Central-ville).	Totals.
January,	\$842 25	\$ 28 12	\$177 09	\$ 108 65	\$ 890 15	\$57 52	\$ 27 75	\$ 30 50	.....	\$215 72	\$183 33	\$687 09	\$3,248 17
February,	594 56	9 00	48 50	118 15	1,623 59	46 04	.....	.....	\$ 59 00	10 55	183 34	483 84	3,176 57
March,	652 10	31 49	141 00	66 40	1,007 80	46 04	28 75	25 00	194 11	64 30	183 33	460 71	2,901 03
April,	829 06	136 61	41 61	948 42	893 27	60 67	204 10	191 50	279 90	16 86	183 33	554 67	4,340 00
May,	638 31	117 99	43 49	1,140 10	952 25	46 04	322 75	349 90	141 00	10 55	183 34	439 84	4,385 56
June,	624 56	61 75	82 74	796 48	946 15	46 04	216 50	273 15	68 00	10 55	183 33	448 84	3,758 09
July,	783 70	75 99	98 99	2,050 95	1,181 42	57 55	331 12	246 72	66 00	10 55	183 33	579 80	5,666 12
August,	630 56	83 62	130 87	1,164 03	893 06	88 79	310 20	170 52	47 50	26 80	183 34	477 84	4,207 13
September,	788 20	119 00	139 75	1,032 22	1,257 75	59 55	273 25	154 75	24 00	50 23	183 33	534 26	4,616 29
October,	639 56	77 25	107 00	747 56	1,586 95	59 29	247 45	134 75	.....	68 05	183 33	359 26	4,210 45
November,	630 56	69 87	131 50	295 09	1,358 07	46 04	251 35	184 55	.....	100 32	183 34	453 40	3,704 09
December,	630 56	69 25	99 50	166 79	946 57	46 04	30 50	69 00	.....	18 99	4583 33	443 50	3,104 03
Totals,	\$8,283 98	\$879 94	\$1,242 04	*\$8,634 84	\$13,537 03	\$659 61	\$2,243 72	\$1,830 34	\$879 51	\$603 47	\$2,600 00	\$5,923 05	\$47,317 53

* Foreman Doyle's time charged as follows: \$126.54 Recharged (Wells), Balance, one-third Maintenance, two-thirds Construction.
† City Engineer, \$400.

TABLE IV.

FINANCIAL STATEMENT—LOWELL WATER WORKS, 1893.

SUBDIVISION CHARGES OTHER THAN RATE AND METERED WATER.

	Meters Sold.	Lime Charges.	Shut-Off Fines.	Sewer Flushing.	New Services' including Labor and Material.	Relaidd Services, including Labor and Material.	Labor and Material,	Expense Setting Meters.	Totals.
January.....	\$ 196 00	\$25 20	\$12 00	\$16 00	\$ 41 58	\$ 35 50	\$ 263 75	\$ 19 38	\$ 609 41
February.....	222 00	.....	2 00	20 00	.....	.....	251 51	15 67	511 18
March .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
April	2,060 75	17 40	2 00	16 00	316 58	146 14	279 13	172 81	3,010 81
May	1,685 00	45 90	6 00	24 00	481 72	441 03	741 27	101 11	3,526 03
June	1,268 00	51 78	.....	16 00	299 54	302 21	1,079 17	87 33	3,104 03
July	566 50	90 72	.....	8 00	399 31	180 16	74 40	54 20	1,373 29
August.....	259 00	24 12	.....	20 00	368 52	347 19	112 92	16 77	1,148 52
September	474 00	86 40	.....	16 00	205 97	98 31	1,133 73	27 98	2,042 39
October	562 00	49 38	94 00	30 00	590 31	225 09	666 51	41 00	2,258 29
November.....	787 00	12 84	12 00	16 00	165 99	79 58	337 95	86 75	1,498 11
December	210 00	8 22	6 00	8 00	39 61	100 41	931 22	16 00	1,319 46
Totals	\$8,290 25	\$411 96	\$134 00	\$190 00	\$2,909 13	\$1,955 62	\$5,871 56	\$639 00	\$20,401 52

TABLE V.

*FINANCIAL STATEMENT—LOWELL WATER WORKS, 1893.***SUBDIVISION "SUPPLIES" FROM TABLE II.**

General stock and fittings.....	\$ 8,728 72
Pumping Station supplies	5,536 74
Iron pipe and specials.....	22,195 18
Hydrants.....	1,312 71
Meters, with repair material	8,486 56
Coal	9,532 01
Lead pipe	3,632 14
	\$59,424 06

TABLE VI.

*FINANCIAL STATEMENT—LOWELL WATER WORKS, 1893.***INTEREST PAYMENTS.****WATER LOAN BONDS:**

Coupon No. 3, May, 1892, 15 @ \$20.....	\$ 300 00
4, Nov., 1892, 43 @ \$20.....	860 00
5, May, 1893, 800 @ \$20.....	16,000 00
6, Nov., 1893, 761 @ \$20.....	15,220 00
High Service Loan Bonds, \$75,000 @ 4%.....	3,000 00

NOTES:

Lowell Inst. Savings, 1 year 3 days, \$100,000...	\$6,655 00
1 year, \$100,000.....	6,500 00
6 months, \$54,000.....	} 2,040 00
6 months, \$48,000.....	
1 year, \$100,000.....	4,000 00
City Inst. Savings, 1 year, \$50,000	3,250 00
	\$57,825 00

PRINCIPAL PAYMENTS.

Engine Loan.....	\$ 6,000 00
Driven Well Loan	10,000 00
Commissioners' Sinking Funds.....	15,000 00

TABLE VII.

*FINANCIAL STATEMENT—LOWELL WATER WORKS, 1893.***DRIVEN WELL EXPENDITURE STATEMENT.**

Loan.	\$100,000 00
From Water Works for sundries.....	7,681 20
	\$107,681 20

EXPENDED :

For land.....	\$ 2,507 50	
Sundry material	4,333 79	
General expense	619 64	
Teaming	1,052 60	
Pipe and specials.....	22,423 69	
Gates and valves.....	1,775 00	
Andrews & Brother.	453 73	
Roofing	282 05	
Coal	2,201 58	
Smoke stack.....	300 00	
Engineer's salary.....	400 00	
Brick work.....	770 08	
Dean Steam Pump Co....	6,819 07	
Cook Well Co.....	6,062 50	
Pay rolls and salaries.....	8,591 44	
Pay rolls (Water Works)....	253 42	
Bills: Lands and Build'gs Appr.,	669 72	
Barker Mfg. Co.....	1,239 46	
Drury & Green.....	529 45	
Pauper Dept.	263 00	.
1892 Payment.....	4 80	
		61,552 52
Balance Jan. 1, 1894,.....		\$46,128 68

TABLE VIII.

FINANCIAL STATEMENT—LOWELL WATER WORKS, 1893.

MAINTENANCE.

PAID FOR LABOR:

Office and Inspectors, salaries.....	\$10,883 98
Pumping Station (Centralville).....	5,923 05
Repairs of meters	1,242 04
Reservoir.....	659 61
General maintenance and reconstruction	16,246 88

PAID FOR MATERIAL:

Out-put as per stock books.....	5,006 76
Reservoir	143 30
Stable	2,063 49
Pumping Station (Centralville), including coal	10,737 59
General expense.....	1,886 75
Morris Engine repairs.....	6,455 48
Driven Well water payment	1,685 00
Andrews & Brother.....	1,000 00
Interest.....	57,825 00
	\$121,758 93

CONSTRUCTION.

PAID FOR LABOR:

New services	\$ 2,243 72
Extensions and new construction...	8,634 84

PAID FOR MATERIAL:

Out-put as per stock books.....	15,903 27
	26,781 83

Total expenditures to date on driven wells, 61,552 52

\$88,334 35

WATER WORKS EXPENDITURES, 1893.

Adams & Co.....	\$ 14 23
Adams, J. J.....	80
Allen, Otis & Son.....	55 73
Ame & Co.....	13 50
American Bolt Co.....	261 27
American Express Co.....	16 70
American Supply Co.....	6 24
Andrews, W. D. & Bro.....	1,000 00
Aurora Iron Works.....	4 75
Averill, O. E.	203 72
Bacheller, Dumas & Co.	178 55
Barker, Stephen.....	3 15
Balch, Martha A.	15 20
Barker, H. R. Mfg. Co.....	318 30
Bartlett & Dow....	199 47
Bennett & Conlon....	2,117 88
Bennett, J. W. & Co.....	1 00
Bingham & Taylor.	28 65
Bolton, T. M.	176 10
Boston & Maine R. R.	943 06
Boutwell Brothers.....	78 15
Bowen, John W.	2 40
Box, Alfred, & Co.....	10 80
Bradley, Hastings & Co.....	17 90
Brennan, Miles F.....	14 00
Brown, Benjamin G....	37 00
Brown, Mrs. D. C.....	2 70
Bryant, E. P.....	62 70
Buck, T. S.....	3 32
Builders Iron Foundry.....	302 40
Burnham & Davis.....	1 86
<i>Amount carried forward</i>	<i>\$6,091 53</i>

<i>Amount brought forward</i>	\$6,091 53
Cahill Brothers.. .. .	63 60
Callahan & Sanborn.....	38 15
Campbell, George H.....	1 50
Campbell & Hanscom.....	111 20
Carey, W. W.....	4 71
Carleton & Hovey.....	3 55
Caswell, A. Y.....	40 00
Chamberlain, Elzadia M.....	8 28
Chapman Valve Mfg. Co.....	525 32
Chase, J. A.....	6 50
Chase, Josie A.....	5 85
Chase, S. K.....	2 66
Christianson, Nils P.....	10 77
Church, H. C., & Son.....	210 00
Citizen Newspaper Co.	165 37
City of Lowell:	
Appropriation Public Buildings.....	411 66
Appropriation Roads and Bridges.....	441 00
Appropriation Schools.....	23 76
City Debt....	16,000 00
Driven Wells	7,681 20
Treasurer	1,625 00
Water Loan	15,000 00
Watering Streets.....	13 29
Clapp, Charles.....	221 00
Clark, Jeremiah	2 70
Coburn, C. B., & Co.....	235 02
Coburn, C. G.....	80
Coger, A. F.....	4 50
Conant & Company.....	221 75
Costello, T., & Co.....	1,389 52
Crowell, Albert	1 30
<i>Amount carried forward</i>	\$50,561 49

<i>Amount brought forward</i>	\$50,561 49
Cummings, W. H.	3 90
Daily News Co.	40 53
Daly, Hugh.	4 05
Davis Co., N.	10 00
Dalton-Ingersoll Co.	619 45
Deane Steam Pump Co.	275 00
Derby & Morse.	13 56
Dickey, Charles M.	3 24
Dignan, Patrick.	2 02
Dodge, Haley & Co.	4 50
Doherty Brothers.	10 08
Donovan & Co.	170 22
Donovan, J. C.	65 55
Dow, Charles F.	3 00
Doyle, Margaret.	3 00
Downing, A. J.	21 38
Drury & Green.	3,677 34
Duncan & Nickerson.	100 00
Dunning, James R.	377 50
Dunning, William.	28 00
Eddy Valve Co.	993 50
Engineering News Pub. Co.	5 00
Engineering Record.	6 50
Farrell & Conaton.	1,672 35
Farrell, Henry.	15 85
Farrington, Southwell.	2 00
Fay Bros. & Hosford.	4 62
Felton & Shedd.	9 00
Fifield, George W.	2 00
Finnegan, Dennis T.	4 73
Fire and Water.	3 00
First Baptist Church.	3 00
<i>Amount carried forward</i>	\$58,715 36

<i>Amount brought forward</i>	\$58,715 36
First National Bank.....	8 06
Foster, Samuel W.....	10 80
Fox, Warren.....	5 00
Foye, W. P.....	210 85
Gage, Daniel.....	20 96
Gates, Josiah, & Sons.....	28 50
Gerrish, Thomas G.....	6 73
Gibson, W. H.....	2 00
Giles, Mrs. Thomas J.....	20 90
Ginty, Philip.....	4 35
Glidden, J. Clark.....	8 30
Glover, W. B.....	80
Grady, Bridget.....	3 00
Greaves, M. J.....	1 35
Green, George.....	2 40
Gregoire & Madden.....	1 50
Grover, C. O. A.....	1 35
Hadley, Harvey.....	4 69
Hanson, C. H., & Co.....	24 00
Hard, F. Blanche.....	6 02
Harmon, A. N.....	25 50
Hathaway, E. F.....	19 42
Hennessey, Ellen.....	30 00
Hersey Mfg. Co.....	14 60
Hill, Edward K.....	15 00
Holmes, Mark, Jr., & Son.....	7 50
Horne, D. W., & Son.....	9,532 01
Howe, Henry C.....	1 50
Howe, John F., Estate.....	1 50
Howe Lumber Co.....	230 60
Hunter, Horatio M.....	2 63
Hurd, Mrs. R. R.....	3 37

Amount carried forward..... \$68,970 55

<i>Amount brought forward</i>	\$68,970 55
Jacobs, J. H.....	5 35
Jager, F. G.....	3 90
Johnson, A. G.....	2 70
Johonnot & Co.....	6 00
Jones, S. H.....	8 37
Kelley, William, & Son.....	1 85
Kelley, D. H.....	13 10
Kelliher, Jane.....	2 70
Kelty, James F.....	60
Kendall, Joseph S., Estate.....	1 44
Keyes, Patrick.....	9 00
Kittredge, A. L.....	23 25
Knapp, Charles L., Clerk.....	106 41
Lawler, Thomas H.....	7 60
Lee, William N.....	1 72
Lenthier, Benjamin.....	2 25
Le National.....	19 48
Lepine & Co.....	2 50
L'Etoile.....	2 60
Livingston, William E....	26 35
Locke Regulator Co.....	2 04
London, Ernest.....	3 35
Lovejoy, D.....	1 04
Lovejoy-Paul Express Co.....	4 40
Lowell Courier & Publishing Co.....	33 86
Electric Light Co.....	356 67
Gas Light Co.....	195 58
Machine Shop.....	7 58
Manufacturing Co.....	5 81
Rubber Co.....	1 00
& Suburban St. R. R. Co.....	342 20
Sun.....	88 26
<i>Amount carried forward</i>	\$70,259 51

<i>Amount brought forward</i>	\$70,259 51
Ludlow Valve Manufacturing Co.....	286 46
Lyon Platinum Pen Co.....	22 50
Mack, W. A., & Co.....	3 43
Maker, George E.....	10 90
Marion, J. S.....	16 00
Marsigney, A.....	1 58
McCarthy, Daniel.....	2 70
McClure, Samuel.....	208 13
McDermott, James H.....	4 23
McDonald, T. J.....	226 47
McLaughlin Manufacturing Co.....	5 00
McNeal Pipe and Foundry Co.....	2,677 38
McOsker, H. C.....	2 83
McQuade, Elias A.....	3 00
Mechanics Savings Bank.....	38 66
Merrill, J., & Son.....	5 25
Merrimack Iron Foundry....	21 18
Michigan Brass and Iron Works.....	27 00
Mollohan Brothers.....	11 87
Morning Mail Co.....	50 98
Morrill, Eugene N.	2 00
Morrison, W. A.....	67 40
Morrissey, Michael.....	1 35
Murphy & Bingham.....	22 50
Murphy, John F.....	69 52
National Meter Co.....	8,524 35
Nelson, George A.....	13 00
New England Telephone and Telegraph Co.....	472 61
New England Water Pipe Co.....	54 09
New York & Boston Despatch Express Co.....	8 65
Nichols, A. F.....	2 16
Nichols, Converse, Estate.....	2 70

Amount carried forward..... \$83,125 39

<i>Amount brought forward</i>	\$88,125 39
Nichols, William, & Co.....	26 40
O'Brien, David W.....	18 00
O'Brien, William.....	7 58
O'Connell, Bridget.....	3 37
O'Donnell & Gilbride.....	8 50
O'Donnell, J. F.....	7 50
O'Loughlin, Colman.....	19 56
O'Sullivan Brothers.....	4 00
O'Sullivan, H.....	111 00
Page Belting Co..	52 56
Page, D. L., Co.....	26 25
Parker, Mrs. J. M. G.....	1 80
Parker, Percy.....	81 76
Parker, S. G.....	45 00
Parker, William H.....	8 02
Pearson, George F.....	53 00
Pearson, W. H.....	6 59
Peet Valve Co.....	630 00
Pendergast, Andrew L.....	13 85
Perrin, Seamans & Co.....	117 00
Pindar, Albert.....	37 60
Postal Telegraph Cable Co.....	70
Pratt, Amasa.....	8 72
Pratt, Sarah E.....	2 70
Prince, G. C., & Son.....	12 50
Proprietors Locks and Canals.....	362 50
Proprietors Lowell Cemetery.....	28 35
Puffer, J. F., & Son.....	2 25
Puffer, S. B.....	5 54
Queenan, Patrick F.....	12 99
Ramsdell, Eliza E.....	10 84
Rensselaer Manufacturing Co.....	12 50
<i>Amount carried forward</i>	\$84,864 32

<i>Amount brought forward</i>	\$84,864 32
Reynolds, T. J.....	88 05
Richardson, Daniel M.....	22 50
Richardson's Hotel.....	18 80
Rollins, F. E....	2 40
Rowe, P.....	1 35
St. Patrick's Church.....	8 40
Sawyer Carriage Co.....	186 50
Scannell & Wholey.....	1,267 24
Shattuck, H. B., & Son.....	50
Sherbert Cylinder Oil Cup Co.....	30 40
Sherman, E. S., & Co.....	141 36
Sherman, Dr. W. A.....	7 00
Simpson, John A....	2 00
Simpson & Rowland.....	4 25
Skinner, A. C., Estate.....	13 65
Smith, Anthony P.....	158 50
Smith, E. A. & A. T.....	173 70
Smith, Joseph W., Estate.....	5 00
Smith, P. J.....	8 64
Smith Premier Typewriter Co.....	3 25
Smith, S. C. & G. H.....	1 91
Spalding, W. H., & Co.....	1 26
Sparks, J. H.....	22 00
Staples Brothers.....	749 52
Starbird, Mrs. C. D.....	67 00
Stevens, A. B.	5 51
Stewart, J. W.....	5 18
Stiles, A. G., & Co....	24 27
Stirling Mills... ..	18 75
Stocks, Harry.....	6 60
Sutcliffe, William T.....	8 00
Swan, C. A. F., Estate.....	1 13

Amount carried forward \$87,918 94

<i>Amount brought forward</i>	\$87,918 94
Swett, J. H.....	78 40
Talbot Dyewood and Chemical Co.....	1 24
Taylor Brothers.....	17 57
Taylor, C. I., & Co.....	340 25
Thomas, Robert J., Superintendent.....	56 24
Thompson Hardware Co.....	138 52
Thomson Meter Co.....	19 90
Tully, Catherine F.....	1 69
Turner, Joseph.....	3 00
Tyler, J., Estate.....	1 65
Union Brass Foundry.....	18 36
Vacuum Oil Co.....	159 09
Vox Populi Press.....	267 60
Wardsworth, Howland & Co.....	3 00
Waldo Brothers.....	144 32
Walworth Manufacturing Co.....	334 83
Ward, William H.....	50 00
Warren Foundry & Machine Co.....	12,459 21
Webster, Prentiss.....	10 35
West, C. D.....	1 00
Western Union Telegraph Co.....	12 53
Weston, William H.....	17 25
Wheelock Engine Co.....	4,884 00
White, William H.....	93 26
Whiting, Henry F.....	13 43
Wilder, H. H., & Co.....	22 48
Wilson, Franklin T.....	8 00
Wilson, Joseph R.....	1 05
Wilson, V. L., Estate.....	10 80
Winkley, Dresser & Co.....	3 00
Wood, E. N.....	232 70
Wood, Edward N., & Co.....	18 48

Amount carried forward..... \$107,342 14

<i>Amount brought forward</i>	\$107,342 14
Wood, R. D., & Co.....	610 02
Worthington, Henry R.....	14 00
Wyckoff, Seamans & Benedict.....	9 60
	\$107,975 76

SUNDRY BILLS PAID ON ACCOUNT DRIVEN WELLS.

Adams, Charles E.....	\$ 30
American Bolt Co.....	300 13
Andrews, William D., & Bro.....	453 73
Bacheller, Dumas & Co.....	13 25
Barker, H. R., Manufacturing Co.....	1,248 81
Bartlett & Dow.....	272 57
Bennett & Conlon.....	770 08
Bennett, J. W., & Co.....	282 05
Boston & Maine R. R. Co.....	68 30
Boutwell Brothers.....	10 35
Bowers, George, City Engineer.....	11 20
Brown, Benjamin G.....	50 00
Builders Iron Foundry.....	8 80
Burnham & Davis.....	184 34
Butler, Josiah.....	100 00
Campbell & Hanscom.....	2 00
Cawley, Edward.....	192 50
Cheney, C. J., Jr....	30 35
Church, H. C., & Son.....	110 06
City of Lowell:	
Appropriation Paupers.....	263 00
Appropriation Public Buildings.....	669 72
Appropriation Roads and Bridges.....	401 50
Street Watering.....	16 00
Water Works Department.....	1,551 40
<i>Amount carried forward</i>	\$7,010 38

<i>Amount brought forward</i>	\$7,010 38
Cluin, J. J.....	8 00
Coburn, C. B., & Co.....	42 36
Coburn, Gratia A.....	1,357 50
Connors Brothers.....	712 85
Cook Well Co.....	6,062 50
Daily News Co.....	1 88
Davis & Farnum Manufacturing Co.....	241 68
Davis & Sargent.....	14 40
Deane Steam Pump Co.....	9,342 27
Drury & Green.....	529 45
Dunning, James R.....	200 00
Eddy Valve Co.....	1,234 00
Engineering Record.....	10 50
Gill, James.....	3 00
Hanson, C. H.....	2 00
Hard, F. Blanche.....	6 38
Horne, D. W., & Son.....	2,201 58
Howe Lumber Co.....	569 21
Kelley, William, & Son.....	91 00
Keyes & Co.....	5 00
Kittredge, A. L.....	1 50
Knapp, Charles L., Clerk.....	46 92
Lawrence, Alvin.....	8 00
Livingston, William E.....	816 73
Lowell Electric Light Co.....	61 00
Lyons, D. F.....	2 00
Maguire & Twohey.....	171 40
Maine & New Hampshire Granite Co.....	90 00
Massachusetts Cotton Mills.....	24
McCarty, Daniel.....	1 00
Morrison, W. A.....	150 00
Murphy & Bingham.....	46 00

Amount carried forward \$31,040 73

<i>Amount brought forward</i>	\$31,040 73
Nelson, George A.....	17 75
New England Telephone and Telegraph Co.....	47 43
O'Hearn, P.....	26 25
Page Belting Co.....	71 50
Partridge, William.....	255 00
Peet Valve Co.....	169 00
Pittsburg Testing Laboratory.....	281 93
Postal Telegraph Co.....	2 96
Pratt, Amasa, & Co.....	15 35
Priest, Page & Co.....	77 00
Puffer, J. F., & Son.....	2 40
Quimby, Alonzo P.....	1,150 00
Ready, A. L., & Son.....	15 00
Ready, James A.....	300 00
Richardson's Hotel.....	40 20
Roberts, William.....	4 50
Scannell & Wholey.....	381 00
Staples Brothers.....	206 92
Sparks, J. H.....	6 00
Star Brass Manufacturing Co.....	101 40
Stark, John F.....	15 00
Sullivan, William F.....	9 25
Talbot Dyewood & Chemical Co.....	5 50
Thomas, Robert J., Superintendent.....	2 25
Thompson Hardware Co.....	1 50
Vacuum Oil Co.....	56 46
Warren Foundry & Machine Co.....	18,544 36
Western Union Telegraph Co.....	1 72
Wood, R. D., & Co.....	157 58
	\$53,005 94

REPORT OF THE SUPERINTENDENT.

TO THE LOWELL WATER BOARD:

Gentlemen,—I present herewith my annual report as Superintendent of Lowell Water Works, for the year ending Dec. 31, 1893.

The growth of the City in recent years, the increased needs of the manufacturing interests, and the marked changes and improvements that have come to the center of the City, have increased the work in every branch of the Water Works Department for the two years past in a marked degree.

Fire insurance officials have come to devote the closest attention and study to the water systems of cities, and any weakness is sure to be pointed out, and the remedy sought. With the growth of a City, the replacement of old by new and higher buildings, the prevailing tendency in crowded districts to large, and too often inflammable, tenement blocks, largely increased demands are made upon our mains, which we are forced to meet by

relaying streets with pipe of increased size. Hydrants that were well enough ten years ago are constantly being brought to notice from the fact that their neighborhood has increased as a fire risk and demand replacement by more modern and efficient patterns. Other detail work of the Department has likewise increased.

The construction work, in the line of street-main extensions, that the Department is called upon to do in a year, has come to be almost double what it was in very recent years. The service connections made, new, as well as old iron ones replaced by lead, are likewise increased in volume of work. The Meter Department shows, too, a large increase of responsibility as may be imagined when it is considered that in the past six years the number of meters in the City has almost doubled, and during which time naturally the care and labor in keeping meters in repair is very much increased. In short, I know of no better illustration of the progress of our City in the last few years, no better indicative of the "old" Lowell and the "new" Lowell, than you will find by a casual survey of Lowell Water Works history. The board has seen fit to recognize three divisions of the work,—the office, which comprehends the business with the public, including the Inspector service; the pumping engines; and my own, the general outside work. The perfect harmony which has prevailed with all three, each with the other, has resulted in a most

satisfactory year's work from my own view, and what success has been mine during the year I must share with Clerk Charles L. Knapp and Engineer Daniel Hart, Jr. Their efficiency needs no coloring by me, however, as their work speaks for itself. For the careful and painstaking work of City Engineer Bowers I am also indebted, and finally for the always hearty assistance and co-operation of President Brennan and members of the Board.

CONSTRUCTION.

The amount of cast-iron pipe laid during the financial year in extending the main lines was 27,622 feet, or 5.22 miles, making the total length of mains in the city to-day 102.8 miles, which includes mains laid in connecting the Driven Wells pumps with the City, but not the pipe of the well system itself. This work is shown by streets in tabular statement elsewhere. The number of new services laid was 318, which, as a matter of coincidence, is the same as in 1892.

The number of new hydrants set was 38, which, with two discontinued, makes the total number of Lowell Water Works hydrants in the City 949. Four fire services have been put in for private property. To be classed as new work, there have been set during the year 286 new meters, making the total number of meters 2,581. "Private" meters, or those set behind other meters for spe-

cial accommodation of property owners, I do not enumerate. In connection with the work at the Driven Wells the Department has done the excavation and laying of foundations for the two pumping engines and the pumping station buildings, also all other work in connection thereto save the fitting up of boilers and the construction of the wooden building. Practically all with these exceptions has been done by the Water Works Department. As a matter of record it is well to describe the work.

Inasmuch as all connected with the Driven Wells Pumping Station is considered as temporary, whatever may be the outcome of the experiment, it was deemed wisest to purchase two 3,000,000 pumping engines rather than one of 6,000,000 capacity. This for the reason that if in the future it was desirable to sell the engines, two of the capacity which we have would find readier sale than one of the larger capacity. Hence the two were purchased and set, leaving space for a third if immediate future needs require, while if the Driven Well experiment prove entirely successful, a permanent pumping station would be erected with pumping machinery suited for what the need should prove to be. The two engines were purchased of the Deane Steam Pump Company, of Holyoke, Mass., for the sum of \$6,715.20, lowest of three bids. They are set upon foundations made up of lower course one foot in thickness of concrete, upon which rests a three

feet course of stone work, and above the latter a two feet course of brick. Two boilers are now furnishing steam. They are two that were removed from the Centralville Pumping Station to make way for the high pressure boilers there substituted. Before setting they were thoroughly overhauled and inspected by competent persons, whose certificate of inspection we hold.

The building over all is an ordinary framed building with gravel roof, erected by the Lands and Buildings Department by day work. The Driven Well contractors are called upon to pipe to and connect with the pumps. Leaving the pumps and coming towards the City our pipe-main work begins. Leaving the station and running north through the meadow we have run with 111 lengths of 30-inch pipe to Plain Street, a distance of 1,332 feet. Here we branch east and west, the line to the east and through Plain Street toward the Crematory Station being 20-inch; the line to the west through Plain Street and toward Chelmsford Street being 24-inch. The 20-inch line strikes the old system at Tanner Street, which we changed from 6-inch and 4-inch to 16-inch, through which street and Lincoln Street the well water finds its way to Gorham Street and beyond. The 24-inch runs to junction of Plain Street with Chelmsford, where it crosses and connects the old system, a 12-inch main, and continues through Plain to and through Parker Street to Wilder Street a 12-inch

pipe. This brings us to the old system again for an outlet and furnishes the Ward Four section of the City with what well water residents of that section are using. It was deemed wise to thus utilize and distribute whatever water the pumps should discharge rather than pump to waste into the brook, and should we never pump more from the wells than we are doing at present, I anticipate that the favored ones who are thus benefited will protest against its discontinuation. As you will find in Clerk Knapp's statement, the Water Works have paid to Driven Wells \$1,685.00 for water used from Sept. 16th to Dec. 20th, taking the City Engineer's estimate on total pumpage.

The above lines of discharge pipe mains are a departure from what was originally planned when the Driven Well pipe was purchased; in consequence of which, when we had completed the above described work, there was on hand a considerable amount of pipe. I have reserved two lengths of each size for cases of emergency, and the balance I have turned over to the regular Water Works stock, charging Water Works the cost price. This amount, \$5,996.20, has been paid by Water Works to Driven Wells account. Any further details as to expenditure on account of this work will be learned from the office accounts. I also deem the matter of results, present and prospective, a subject that the City Engineer's position and acquaintance with the work entitles him to treat, hence will not

intrude my own views. The work, even so far as it has progressed, is a heavy undertaking, and thus far certainly our citizens have reason to congratulate themselves upon the economy with which the work has been performed.

MAINTENANCE.

A task indeed is it to detail the maintenance work of the year. The Department has replaced 3,529 feet of street-main pipe with larger sizes. Replaced 264 old iron service pipes with lead. Replaced 10 old or broken down fire hydrants. Renewed 20 hydrant and gate boxes. All of which you will find detailed in tabular statement elsewhere. The Department has taken out and repaired at shop 324 meters. Seventy-six meters, after years of service, have been condemned, owners notified, and of the above number 68 have been replaced by new meters. The condemned meters are mostly of the Desper pattern. No reflection is made upon this meter, however, as they have done good service, many doing continuous work for a dozen years or more. Too much care, however, can not be taken in the selection of water meters. The cheapness of a meter is no recommendation, neither is the eloquence of a selling agent always proof of the quality of goods. There is but one safe criterion, — your own experience with a meter. I have no personal preference, — I want only the best and most reliable. Others may not agree with me, but I

shall always be ready to explain why I am using what I deem the best meter on the market. In saying this, understand I am always ready and willing, and ever have been, to give trial to any and all meters offered for sale.

You will note the increased pay-rolls of the year. The increased amount of work performed is the explanation. The maintenance expenses of last winter were unprecedented. With continuous cold weather, so severe as to compel us to run water in hydrants to prevent freezing, it may be presumed that the burden resulting from frozen services was very heavy. Our forces were taxed to the utmost, working seven days in the week and far into the night. The temper of our regular men was put to the test, but they were equal to it.

Through this severe season 221 services were frozen beyond the power of aid from plumbers and were opened by our men. One hundred hydrants were frozen, some of these every day for a period of two weeks.

During the time some fifty meters were frozen and burst, though in most cases the blame rested with owners not providing proper protection.

Following the experience of the severe winter, many changes have been made in exposed places, so that whatever may be in store for us from the elements, we shall not be compelled to undergo similar experiences.

I have made extra effort during the summer to

improve the quality of our reservoir water, and I hope not without result. The filter inlet and gallery have been kept clean and worked for their fullest capacity, with so good result that at times the river gate on the inlet pipe (a 30-inch pipe) was open but 3 inches. The cold weather, however, of course put an end to our effort at this point.

During the summer the walls of the gallery were washed and a scouring force of men were sent through the brick conduit and tunnel as far as the Bodwell gatehouse near Beaver Brook. Mud deposit was found to a depth of four feet in places. This and other deposit was removed by stirring up and flushing with full river head. I believe with constant care and attention at this end of our system we can improve our Merrimack supply in a marked degree. This more from the fact that as the Driven Well supply increases, the water pumped into reservoir will longer remain there and have opportunity of settling. To the end of bettering the water, we have, during the year, frequently flushed the street mains, a process that we are now enabled to do more effectively, owing to the additional blow-off gates placed last year and two more of which have been added the past year, one on Lawrence Street and one on Gorham Street, and both into Hale's Brook. In connection with other work done at the intake from the river, the intake pipe supplying the filter basin was extended into the river thirty feet. The main intake pipe was also fitted with

new screens, the work requiring the aid of a submarine diver.

I have spoken of the needs of replacing old lines of street mains with larger sizes. To illustrate: previous to 1893 a 6-inch main ran through Mt. Vernon Street from Broadway to Rock Street. Upon this line were dependent the Lowell Hosiery, Allen & Son's shop, Bateman's lumber establishment, the Gas Works, and other property of like character. It is evident at once that this 6-inch pipe would be of but little aid in case of fire at this particular point. The remedy was made by running a 10-inch pipe through Mt. Vernon Street into an 8-inch on Rock Street, which was connected with School Street main. For similar reasons a 6-inch on upper Dutton Street near the Kitson Company's shops was replaced by a 10-inch, with heavy hydrant attached. Work of this character will never cease. In my judgment it never should, so long as a weak spot in the system from a fireman's standpoint is known to exist.

PUMPING.

The pumping at the Centralville station during the year has been done almost entirely by the High Duty Worthington Engine. In the careful hand of Engineer Hart it has given no trouble, doing its work with ease and in a very satisfactory manner. As to its economy you are referred to City Engineer's annual table. The total pumpage was

2,487,975,144 gallons; the total consumption for the year was 2,488,184,364 gallons, which gives for consumption per capita (population 87,191) 78 gallons; not a bad showing as figures of different cities go, and inasmuch as 62 gallons is considered among engineers the normal figure.

We have a full supply of coal, one that should suffice for the Centralville station until next June, at least.

The Morris Engine repair work is pronounced finished by the contractors, the Wheelock Engine Company, of Worcester, Mass., but as the matter is in charge of a committee of your own members, no mention will perhaps be looked for from me at this time. I trust, however, that the test trial will be arranged to take place at an early date, so that if contract is fulfilled, the engine may be turned over and once more put in service in case it shall be needed.

MISCELLANEOUS.

Incidental changes and improvements made are many. We have placed in all Fire Department houses water pressure gauges and connected same to street main. With these gauges, those at the Pumping Station, and the automatic alarm in the office at City Hall, no accident should be possible to happen whereby pressure is lost, without our men knowing the fact as soon as accident occurs.

For further protection and for purpose of knowing that our hydrants are all right at all times, I have

detailed a faithful man, who gives his entire attention to hydrants. His watchfulness and care, together with the co-operation of members of the Fire Department, should ensure the never failing of a fire hydrant.

Nothing in connection with the reservoir calls for special mention. The expenditures on account of the same have been light, the painting of keeper's house being the largest item. The Department cut 8 tons of hay which was used at our stables.

A 24-inch gate has been set on the 24-inch main on East Merrimack Street, near the Concord River bridge, in anticipation of the bridge rebuilding now underway, the necessity of which will be apparent to you.

The activity of insurance people has led to no little over-hauling of fire-fighting facilities on premises of private parties; in consequence the Department has been called upon to furnish a goodly amount of labor and material to those involved. It would seem proper for the City to give citizens and tax-paying corporations the benefit of our skilled labor and also of our material when we can do so without inconvenience to ourselves. It has been my policy to do this, and it is no secret that such labor and material is furnished by the Water Works at a much lower cost than a customer could do the work himself, to say nothing of the manner and quality of the work done.

During the year, at solicitation of Locks and

Canals Company, we removed the Central Street main from the bottom of canal and hung the same upon truss, changing the size from 12-inch to 16-inch, in anticipation of a change in size of Central Street main.

You will recall that last year we boxed and packed the pipe which crosses Centralville Bridge. Since it was done we have had no further trouble from this heretofore troublesome run of pipe.

During the year all fire services have been inspected, sealed, and a notice detailing the requirements of the City Ordinance with reference to the uses of fire services posted.

I would recommend that during 1894 the main pipe in Central Street, from Prescott Street to Jackson Street, be taken up and the present 12-inch replaced by a 16-inch pipe. Also that the School Street main be extended under the Western Avenue railroad tracks, making continuous line in School Street, and this done that the Western Avenue main be extended to School Street. This will bring more water to Western Avenue, a spot that hardly a year goes by without visitation of fire.

In closing allow me to again express my sense of obligation to those with whom I have been associated and who have so heartily co-operated with me.

ROBERT J. THOMAS,

Superintendent Lowell Water Works.

LOWELL, MASS., Dec. 31, 1893.

NEW SERVICES.

44	$\frac{5}{8}$ -inch lead pipe.....	1,553 feet.
251	$\frac{3}{4}$ -inch lead pipe.....	9,548 "
16	1-inch lead pipe.....	596 "
1	1-inch iron pipe.....	59 "
4	2-inch iron pipe.....	102 "
2	6-inch iron pipe.....	162 "
318	Total laid in 1893.....	12,020 "
	Amount previously laid.....	339,540 "
	Total now laid.....	351,560 "

Or 66 miles 2,080 feet.

Total number services laid.....	9,607
Total number cut off at main.....	538
Total reconnected.....	40
Total now in use.....	9,049

SERVICES CHANGED.

No.	Kind.	CHANGED TO			
		1 inch Lead.	3-4 inch Lead.	5-8 inch Lead.	Total Relaid.
16	3-4 inch iron.	558	....	....	558 feet.
4	1 inch "	208	....	....	208 "
236	3-4 inch "	....	7,796	....	7,796 "
4	3-4 inch "	....	....	161	161 "
3	1 inch "	....	49	....	49 "
1	5-8 inch lead.	....	85	....	85 "
264		766	7,930	161	8,857 feet.

METERS RUNNING JAN. 1, 1894.

Size.....	5-8 in.	3-4 in.	1 in.	1 1-2 in.	2 in.	3 in.	4 in.	6 in.	Total.
Desper,	284	88	38	..	..	..	..	..	410
Worthington,	256	24	46	70	33	8	3	..	440
Crown,	614	770	205	4	9	1	3	..	1,606
Duplex,	9	11	9	..	..	..	..	..	29
Ball & Fitts,	7	2	1	1	..	..	..	..	11
Fitts Rotary,	2	1	..	..	..	..	..	..	3
Frost,	31	10	3	..	1	..	..	..	45
Thomson,	2	7	2	..	..	..	..	..	11
Gem,	..	..	..	..	5	..	2	2	9
Hersey,	3	10	3	..	..	..	..	..	16
Weir,	..	1	..	..	..	..	..	..	1
Total,	1,208	924	307	75	48	9	8	2	2,581

PRIVATE METERS RUNNING JAN. 1, 1894.

Size.....	5-8 in.	3-4 in.	1 in.	2 in.	Total.
Desper	1	3	1	..	5
Worthington . .	..	..	1	2	3
Crown	20	18	1	..	39
Duplex	1	..	..	..	1
Frost	2	1	..	..	3
Thomson	2	1	..	..	3
Hersey	1	..	..	..	1
Nash	1	..	..	..	1
Total	28	23	3	2	56

Number of new meters set	286
Number of new meters set, replacing condemned	68
Number of meters taken out to repair, clean, and test . .	324
Number of meters repaired on premises	187
Number of meters running Jan. 1, 1894	2,581
Number of private meters	56
Number of meters reset	238

**LOW SERVICE—LIST OF STOP GATES SET DURING
THE YEAR 1893.**

STREETS.	LOCATION.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	20 inch.	24 inch.	30 inch.
Bartlett.....	13 ft. south of north line Bartlett St, 9 ft. west of east line St. John's Hospital	1								
Beaver.....	11 ft. east of west line Beaver St., 1.5 ft. south of south line Lakeview Av.....	1								
Billings.....	12 ft. south of north line Billings, 5 ft. west of west line Bridge St.....	1								
Bowden	12 ft. south of north line Bowden, 1 ft. east of west line Stromquist St.....	1								
Boynton.....	12.8 ft. south of north line Boynton, 1 ft. east of west line Bridge St.....	1								
Burnside	12 ft. west of east line Burnside, 0.8 ft. north of north line Westford St.....		1							
Campaw	12 ft. south of north line Campaw St., 1 ft. west of west line Lakeview Av.....	1								
Chelmsford.....	33 ft. west of east line Chelmsford, 8 ft. south of north line Plain St.....				1					
Chelmsford.....	15 ft. east of west line Chelmsford, 2 ft. north of north line Howard St				1					
Chippewa	12 ft. east of west line Chippewa, 1 ft. north of south line Bowden St.....	1								
Courtney av.....	4 ft. east of west line Courtney Av, 14 ft. north of south line Lakeview Av.....	1								
Courtney av.....	6 ft. east of west line Courtney Av., 1.5 ft. north of north line Front St.....	1								
Dartmouth	14.6 ft. north of south line Dartmouth, 1.2 ft. east of west line Bridge St.....	1								
Davenport.....	12 ft. north of south line Davenport, on east line Pine St.....	1								
Durant	19 ft. south of north line Third, 10.6 ft. west of east line Fremont St.....	1								
Duren av.....	8 ft. east of west line Duren Av., 16.7 ft. north of south line Middlesex St.....	1								
Dutton.....	26 ft. east of west line Dutton St., 11.3 ft. north of south line Merrimack Corp., opp. Counting Room.....	1								
Dutton.....	39 ft. south of north line Dutton, on east line Fletcher St.....			1						
Dutton.....	On fire service to Kitson Machine Co., 36.7 ft. south of north line Dutton, 6.7 ft. west of west line Kitson St.....	1								
East Merrimack..	34.6 ft. north of south line East Merrimack, 18 ft. west of west line Staekpole St.....								1	
Eighteenth	12 ft. north of south line Eighteenth, 1-ft. east of east line Humphrey St.....	1								
Ennell	11.5 ft. north of south line Ennell St., 5 ft. east of east line Lakeview Av.....		1							

LOW SERVICE—LIST OF STOP GATES SET DURING 1893.—*Continued.*

STREETS.	LOCATION.	4	6	8	10	12	16	20	24	30
		inch.	inch.	inch.	inch.	inch.	inch.	inch.	inch.	inch.
Fletcher.....	16.5 ft. west of east line Fletcher St., 35 ft. south of south line Richardson's (store) Building					1				
Fletcher.....	18 ft. west of east line Fletcher St., on south line Broadway.....				1					
Georgia av	12 ft. east of west line Georgia Av., 1 ft. south of south line Davenport St.....	1								
Gibson.....	12 ft. west of east line Gibson, on north line Pine St.....	1								
Gorham	(On blow-off) 16.7 ft. east of west line Gorham, 78 ft. north of north line Congress St.	1								
Greendale av	12.5 ft. east of west line Greendale Av., .8 ft. south of south line Hale St.....	1								
Grosvenor.....	14 ft. west of east line Grosvenor, 123 ft. south of Middlesex St.....	1								
Harding	12.25 ft. north of south line Harding, 3 ft. west of west line South Walker St.....	1								
Hudson	8 ft. south of north line Hudson, 5 ft. east of east line Central St.....	1								
Jenness.....	12 ft. south of north line Jenness, on east line Stevens St.....	1								
Lawrence	(On blow-off) 12.7 ft. west of east line Lawrence St., 37 ft. north of north line American Bolt Co. Storehouse.....	1								
Liberty sq.....	37.5 ft. south of south line Richardson's (store) Building, 11.5 ft. west of east line Fletcher St.....		1							
Lilley av	12 ft. south of north line Lilley Av., 4 ft. west of north-east intersection of Aiken and Lilley Avs.....	1								
Lincoln.....	35 ft. east of west line Lincoln, 14 ft. north of south line Tanner St... ..					1				
Ludlam.....	12 ft. south of north line Ludlam, 5 ft. west of north-east intersection of Ludlam St. and Aiken Av	1								
Marginal	12 ft. south of north line Marginal, 2.5 ft. west of west line Stevens St.....		1							
Mason	14 ft. south of north line Mason, on west line South Walker St.....	1								
Middlesex Park..	10 ft. west of east line Middlesex Park, 29 ft. south of north line Middlesex St.....	1								
Mt. Vernon.....	17 ft. east of west line Mt. Vernon St., 30 ft. north of south line Broadway				1					
Mt. Vernon.....	11.6 ft. east of west line Mt. Vernon, 20 ft. south of north line Rock St.....				1					
Mt. Vernon	13.7 ft. east of west line Mt. Vernon St., on Lowell Hosiery Service.....	1								
New	12 ft. north of south line New St., 5 ft. east of east line Marshall Rd.....	1								

LOW SERVICE—LIST OF STOP GATES SET DURING 1893.—*Continued.*

STREETS.	LOCATION.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	20 inch.	24 inch.	30 inch.
O'Connell.....	11.5 ft. east of west line O'Connell, on north line Lundberg St.....	1								
Ottawa	14.5 ft. north of south line Ottawa St., on west line Lakeview Av.....		1							
Parker.....	13.5 ft. south of north line Parker, 2.5 ft. west of east line Wilder St.....				1					
Perrin	38 ft. south of north line Perrin St., on west line of house (No. 29 and 31) lot.....	1								
Perry	13.5 ft. east of west line Perry, 5 ft. south of Rogers St. (Replaced 6 inch.).....		1							
Perry	(Check valve) 12 ft. east of west line Perry, 326 ft. south of Rogers St.....		1							
Perry	On fire service to White Bros.' factory, 8 ft. east of west line Perry St., 6.5 ft. south of south line building.....		1							
Pevey	14.7 ft. south of north line Pevey, on east line Walker St.....		1							
Pihl.....	12 ft. east of west line Pihl, 4 5 ft. south of south line Fay St.....	1								
Pine	15.7 ft. north of south line Pine, on east line Wilder St.....		1							
Pine	15 ft. north of north line Pine, 3.5 ft. west of west line Wilder St.....		1							
Plain.....	17 ft. south of north line Plain, 4 ft. west of west line Chelmsford St.....				1					
Plain.....	17 ft. south of north line Plain, 5 ft. west of east line Chelmsford St.....							1		
Pumping Station,	On force main at Driven Well Pumping Station.....								1	
Pumping Station,	(Check valve) on force main at Driven Well Pumping Station.....								1	
Quimby av.....	10 ft. south of north line Quimby Av., 1 ft. east of Chelmsford St.....	1								
Richardson.....	13 ft. south of north line Richardson, 1.8 ft. west of west line Bridge St.....		1							
Rock.	16 ft. north of south line Rock, on west line Willie St.....		1							
Rock.	12 ft. north of south line Rock, 1 ft. east of east line School St.....			1						
Sanborn	12.5 ft. north of south line Sanborn, 1 ft. west of east line Vernon St.....	1								
Saratoga.....	12 ft. north of south line Saratoga, on east line Gorham St.....		1							
Sargent.....	27.5 ft. south of north line Sargent, on east line Clare St.....		1							
Sayles	12 ft. east of west line Sayles, 13.8 feet south of north line Westford St....	1								

LOW SERVICE—LIST OF STOP GATES SET DURING 1893.—*Continued.*

STREETS.	LOCATION.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	20 inch.	24 inch.	30 inch.
Shaw Hosiery....	(Check valve) in mill yard 2 ft. east of east line Smith, 80 ft. south Shaw St.....		1							
Smith	(On service to Shaw Hosiery) 24.5 ft. west of east line Smith, 80 ft. south Shaw St.....		1							
Swan av	12 ft. north of south line Swan Av., 1 ft. east of east line Wilder St.....		1							
Tanner.....	13 ft. north of south line Tanner, 4 ft. west of east line Plain St.....						1			
*Thorndike.....	(C. I. Hood & Co.'s service) 39.5 ft. east of west line Thorndike St., 24.5 ft. north of north line New Laboratory.....		1							
Twelfth	12 ft. north of south line Twelfth, 7 ft. east of west line July St.....		1							
Vernon	18 ft. west of east line Vernon, on north line Sanborn St.....	1								
Vernon	18 ft. west of east line Vernon, on south line Sanborn St.....			1						
Westford	14 ft. north of south line Westford, on west line Chelmsford St.....		1							
White Bros.....	Fire service west of L. & A. R. R.....		1							
Wilton av.....	11 ft. west of east line Wilton Av., 14 ft. south of north line Middlesex St.....		1							

* Replaced 4 inch gate.

HIGH SERVICE—LIST OF STOP GATES SET DURING
THE YEAR 1893.

STREETS.	LOCATION.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	20 inch.	24 inch.	30 inch.
Calvin	12 ft. west of east line Calvin, on south line Boylston St.....		1							
Parkview av. ...	13 ft. east of west line Parkview Av., 5 ft. south of Mansur St.....		1							
Sycamore	12 ft. north of south line Sycamore St., on west line Wentworth Av.....		1							

**LOW SERVICE.—LIST OF HYDRANTS SET DURING THE
YEAR 1893.**

STREET.	LOCATION.
Aiken	Easterly side, on terminus.
B	Northerly side, northeast corner B and Spaulding Sts.
Bellevue	Westerly side, south of J. Murphy residencee.
Campaw	Northerly side, 269 feet west of Lakeview Av.
Chelmsford ..	Westerly side, just south of Forrest St.
Chippewa.....	Westerly side, southwest interseccion of Chippewa and Saratoga Sts.
Clare.....	Westerly side, opposite Sargent St.
Clare.....	Westerly side, 232 feet south of Sargent St.
Dartmouth....	Southerly side, 38 feet west of Bridge St.
Davenport....	Southerly side, 367 feet east of Pine St.
Fifth Av.....	Southerly side, on terminus of pipe line.
Georgia Av...	Westerly side, 230 feet south of Davenport St.
Gibson.	Easterly side, in front of Mitchell's residencee.
Gibson.	Easterly side, 2 feet north of Pine St.
Gorham.....	Westerly side, near Town Line.
Hudson	Northerly side, 139 feet east of Central St.
Jenness.	Northerly side, near Chelmsford St.
Lawrenee.....	Changed from easterly to westerly side at Belvidere Woolen Mills.
Lilley Av.....	Northerly side, at northeast intersection of Aiken and Lilley Avs.
Nelson Av....	Westerly side, just south of Barden St.
Ottawa.....	Southerly side, 4 feet west of Lakeview Av.
Parker.	Northerly side, in front of Miss Spaulding's home.
Payton	Easterly side, 127 feet south of Plain St.
Perry	Easterly side, 383 feet south of Rogers St. (Changed from west side.)
Perry	Easterly side, 7 feet south of New St.
Pine	Southerly side, 477 feet east of Stevens St.
Roek	Southerly side, in yard of Lowell Gas Light Co.
Roek	Southerly side, 336 feet east of School St.
Saratoga.....	Southerly side, 289 feet east of Gorham St.
Shaw Hosiery,	In mill yard near Smith St.
Staekpole.....	Westerly side, 25 feet north of East Merrimaek St.
Stevens	Westerly side, opposite Jenness St.
Tanner.....	Southerly side, 4 feet east of London St.

LOW SERVICE.—LIST OF HYDRANTS SET DURING YEAR 1893.—*Continued.*

STREET.	LOCATION.
Thorndike	Easterly side, opposite C. I. Hood & Co.'s Laboratory.
Vernon.....	Easterly side, 2 feet south of Sanborn St.
Ward	Easterly side, near Perkins St. (Changed.)
William.....	Northerly side, 4 feet west of George St.
White Bros...	Rear of tannery, on Perry St., west of L. & A. R. R.

HIGH SERVICE.—LIST OF HYDRANTS SET DURING THE
YEAR 1893.

STREET.	LOCATION.
Boylston.....	Northerly side, 36 feet west of old terminus.
Boylston.....	Northerly side, on terminus of new line.
Parkview Av.	Westerly side, 150 feet south of Mansur St.
Sycamore.....	Southerly side, 154 feet west of Wentworth Av.

LOW SERVICE.—WATER PIPES LAID IN 1893.

STREETS.	BETWEEN WHAT STREETS.	Length in feet.									Total.
		4 in.	6 in.	8 in.	10 in.	12 in.	16 in.	20 in.	24 in.	30 in.	
Aiken.....	Extended southerly.....					116					116
B.....	Westerly to Spaulding.....		222								222
Bartlett.....	Elevator service to St. John's Hospital.....		42								42
Beaver	Southerly from Lakeview Av.....		469								469
Bellevue.....	Extended southerly.....			215							215
Billings.....	Westerly from Bridge St...		120								120
Bowden	Westerly from Stromquist.		252								252
Burnside	Northerly from Westford..			147							147
Burnside.....	Extended southerly (from Middlesex).....		72								72
Campaw.....	Westerly from Lakeview Av.....		433.5								433.5
Canada	Westerly from Main.....		144								144
Chambers....	Extended westerly.....		96								96
Central	At Canal Bridge.....						102				102
Chelmsford ..	Howard and Westford.....					462					462
Chippewa....	Southerly from Bowden...		365								365
Clare.....	Northerly and southerly from Sargent.....			460							460
Concord	Extended southerly.....		92								92
Courtney Av.,	Lakeview Av. and Front..	228									228
Dartmouth ...	Westerly from Bridge.....		219								219
Davenport ...	Easterly from Pine.....		834								834
Dummer.....	Southerly from Little.....		162								162
Duren Av....	Southerly from Middlesex,		125								125
Durant.....	Southerly from Third.....		146								146
Durant	Southerly from Vernon....			720							720
Dutton... ..	Merrimack Mfg.Co.service		111								111
Dutton.....	Kitson and Fletcher.....				401						401
Dutton.....	Kitson Mach. Co. service..		60								60
	Carried forward.....	228	3964	1542	401	578	102				6815

LOW SERVICE.—WATER PIPES LAID IN 1893.—*Continued.*

STREETS.	BETWEEN WHAT STREETS.	Length in feet.									Total.
		4 in.	6 in.	8 in.	10 in.	12 in.	16 in.	20 in.	24 in.	30 in.	
	<i>Brought forward</i>	228	3964	1542	401	578	102				6815
Eighteenth...	Easterly from Humphrey....		560								560
Ennell.....	Easterly from Lakeview Av.			711							711
Fifth Av.....	Extended easterly.....		173								173
Force Main...	Driven well station and Plain								1406		1406
Georgia Av...	Southerly from Davenport..		306								306
Gibson.....	Southerly to Pine.....		1095								1095
Gorham	Southerly to town line.....		119								119
Gorham	Blow-off into Hale's Brook..		19								19
Greendale	Southerly from Hale Street,		169								169
Grosvenor	Southerly from Middlesex...		157								157
Harding.....	Westerly from So. Walker...		130								130
Hudson.....	Southerly from Central.....		226								226
Jenness.....	Westerly to Stevens.....		428								428
Lawrence.....	Blow-off into Hale's Brook..		16								16
Lilley Av.....	Southerly to Aiken Av.....		186								186
Livingston Av	Extended northerly.....		89								89
Ludlam.....	Easterly from Aiken Av.....		79								79
Maple.....	Extended westerly.....		279								279
Marginal.....	Westerly from Stevens.....			192							192
Mason.....	Westerly from So. Walker...		93								93
Midd'x Park..	Northerly from Middlesex...		205								205
Mt. Vernon...	Lowell Hosiery Co.....		33								33
Mt. Vernon...	Broadway and Rock.....			590	19						609
Nelson Av....	Extended southerly.....		193								193
New.....	Easterly from Marshall Rd..		161								161
O'Connell.....	Northerly to Fay.....	56									56
Ottawa.....	Westerly from Lakeview Av.		347								347
Parker.....	Plain and Wilder.....				1341						1341
Payton.....	Extended southerly.....		10								10
Perry	Southerly from Rogers.....			1033							1033
Perry	Service for White Bros. & Co.			88							88
Pevey.....	Easterly from Walker.....		138								138
	<i>Carried forward</i>	284	9175	3566	991	1938	102	0	0	1406	17462

LOW SERVICE.—WATER PIPES LAID IN 1893.—*Continued.*

[illegible]

HIGH SERVICE.—WATER PIPES LAID IN 1893.

STREETS.	BETWEEN WHAT STREETS.	Length in feet.								Total.
		4 in.	6 in.	8 in.	10 in.	12 in.	16 in.	20 in.	24 in.	
Beacon	Extended southerly.....	70								70
Boylston	Extended westerly.....	1662								1662
Calvin	Southerly from Boylston.....	192								192
Mansur	Westerly from Parkview Av.....	7								7
Parkview Av.	Northerly to Mansur.....	320								320
Sycamore	Extended easterly.....	103								103
Sycamore	Westerly from Wentworth Av.....	168								168
Wentw'th Av.	Extended northerly.....	192								192
Hydrants		33								33
	Laid in 1893.....	2747								2747
	High Service laid previous to 1893.....									26703
	Total High Service to Jan. 1, 1894.....									29450

Brought forward.....	21,346.0
Low Service laid previous to 1893	491,864.8
Total Low Service to Jan. 1, 1894.....	513,210.8
Total High Service to Jan. 1, 1894	29,450.0
Total High and Low Service to Jan. 1, 1894.....	542,660.8
Total in miles, 102.8.	

INVENTORY LOWELL WATER WORKS PROPERTY,

JAN. 1, 1893.

CAST IRON PIPE AND SPECIALS.

	4 in.	6 in.	8 in.	10 in.	12 in.	16 in.	20 in.	24 in.	30 in.
Lengths of pipe	42	8	373	337	288	44	39	11	27
Sleeves	19	14	14	2	7	9	5	8	9
Caps	48	46	57	2	22	3		1	
Plugs	22	4	4	3	17	6	1		
Curves, 1-4	2	7	12	4	11				
Curves, 1-8	2	19	6	2	3	1	6	3	
Curves, 1-16		2	3		4	3	5	2	

	4 x 4	6 x 4	6 x 6	8 x 4	8 x 6	8 x 8	10 x 4	10 x 6	10 x 8	10 x 10	12 x 4	12 x 6	12 x 8	12 x 10	12 x 12	16 x 6	16 x 8	16 x 10	16 x 12	16 x 16	24 x 6
Threeways	5	8	9	7	6	20		5	11	6	1	7	6	4	13	2	6	3	1	2	1
Fourways	7	6	11	4	15	9		7	5	3		6	6	2	4	3	2		1	1	
Reducers		3		2	3		3	15	5		2	8	9	6				4	2		

Stock on hand Jan. 1. 1894.

Three 30-inch curves, 2 3-foot radius, 11 6-inch S curves, 1 24-inch clamp sleeve, 1 30-inch clamp sleeve, 1 30-inch manhole, 1170 lbs. pig lead, 6 bales gasket, 4 cords wood. GATES.—4-inch, 2; 6-inch, 5; 8-inch, 2; 10-inch, 2; 12-inch, 3; 20-inch, 1; 54 gate spindles, 27 gate packings, 8 nuts for spindles, 10 spindle plates, 10 iron gate boxes, 10 extra bases for gate boxes, 8 extra tops for gate boxes, 3 wooden gate boxes, 26 frames and covers for wooden boxes. HYDRANTS.—Lowry, 1; Independent Outlet Chapman, 1; Chapman, 3; Eddy, 5; 1 top part of Independent Outlet hydrant, 1 top part of Chapman hydrant, 70 brass hydrant spindles, 4 Independent Outlet valves, 6 spindles for Independent Outlet valves, 13 iron spindles, 6 brass bushings for hydrants, 13 spindle heads, 22 leather valves, 24 nipples for post hydrants, 9 nozzle caps, 120 rubber packings. FOUNTAINS.—Bells, 3; bottoms, 3; uprights, 3; front pieces, 9; overflow caps, 8; dog troughs, 9; dippers, 1; 20 feet chain for dippers. METERS.—Crown, 1½-inch, 1; 1-inch, 14; ¾-inch, 26; ⅝-inch, 27. Extra Unions, 1-inch, 19; ¾-inch, 70; ⅝-inch, 65. Tops, 1 inch, 14; ¾-inch, 7; ⅝-inch, 9. Nash, ¾-inch, 4. Frost, 1½-inch, 2; ¾-inch, 1. Thomson, 1-inch, 1. Worthington, 3-inch, 1; 2-inch, 3. 20 tops, 20 spindles, 20 arms, 20 caps, 75 spindle packings, 32 pistons, ⅔ roll of paper for packing meters, 16 meter box frames and covers. LEAD PIPE, 1½-inch, 13 feet, 3 inches; 1-inch, 425 feet; ¾-inch,

3452 feet; $\frac{5}{8}$ -inch, 2581 feet. IRON PIPE, $1\frac{1}{2}$ -inch, 50 feet; $\frac{3}{4}$ -inch, 120 feet. Lead-lined iron pipe, 1-inch, 400 feet; $\frac{3}{4}$ -inch, 600 feet; 65 goose-necks, 2 lbs. washers, 352 lbs. wiping solder, 425 lbs. fine solder; corporation cocks, 1-inch, 50; $\frac{3}{4}$ -inch, 144; sidewalk cocks, 1-inch, 54; $\frac{3}{4}$ -inch, 124; cellar cocks, 1-inch, 70; $\frac{3}{4}$ -inch, 144; Extra Unions, 1-inch, 107; $\frac{3}{4}$ -inch, 146; 22 sidewalk cocks for iron pipe, 8 iron service boxes, 19 1-foot extensions, 6 2-foot extensions, 2 3-foot extensions, 27 plugs, 27 collars, 6 plugs for fire-service boxes; valves, 2-inch, 6; $1\frac{1}{2}$ -inch, 22; $\frac{1}{2}$ -inch, 1; solder nipples, 2-inch, 3; $1\frac{1}{2}$ -inch, 24; $1\frac{1}{4}$ -inch, 34; 1-inch, 48; $\frac{3}{4}$ -inch, 33. Brass couplings, $1\frac{1}{4}$ -inch, 1; 1-inch, 2; $1\frac{1}{4}$ -inch, 7; $1\frac{1}{2}$ -inch, 11; $\frac{3}{4}$ -inch, 3; $\frac{3}{4}\times\frac{1}{2}$ -inch, 70. Brass elbows, 1-inch, 2; $1\frac{1}{4}$ -inch, 124; $1\frac{1}{2}$ -inch, 25; $\frac{3}{4}$ -inch, 286; $\frac{3}{4}\times\frac{1}{2}$ -inch, 3; $\frac{1}{2}$ -inch, 1; $1\frac{1}{2}$ -inch, 20. Brass tees, $1\frac{1}{4}$ -inch, 4; $\frac{3}{4}$ -inch, 9; $\frac{1}{2}$ -inch, 1. Brass nipples, $\frac{1}{2}$ -inch, 1; $1\frac{1}{4}\times 1$ -inch, 2; 1-inch, 18; $1\frac{1}{2}\times 1$ -inch, 20; $1\frac{3}{4}$ -inch, 18; $\frac{3}{4}$ -inch, 4; $\frac{3}{4}\times\frac{1}{2}$ -inch, 3; $\frac{1}{2}$ -inch, 1. Brass plugs, $\frac{3}{4}$ -inch, 3. Brass bushings, $1\frac{1}{2}\times 1\frac{1}{4}$ -inch, 1; $1\frac{3}{4}$ -inch, 6. Iron elbows, $2\frac{1}{2}$ -inch, 4; $2\frac{1}{2}\times 2$ -inch, 1; $2\frac{1}{2}\times 1\frac{1}{2}$ -inch, 1; 2-inch, 7; $1\frac{1}{2}$ -inch, 9; $1\frac{1}{2}\times 1$ -inch, 12; $1\frac{1}{4}$ -inch, 4; $1\frac{1}{4}\times 1$ -inch, 13; $1\frac{1}{4}\times\frac{3}{4}$ -inch, 3; 1-inch, 25; $1\frac{1}{2}\times\frac{3}{4}$ -inch, 84; $1\frac{1}{2}\times\frac{1}{2}$ -inch, 1; $\frac{3}{4}$ -inch, 31; $\frac{3}{4}\times\frac{1}{2}$ -inch, 62. Iron tees, $2\frac{1}{2}\times 1\frac{1}{2}$ -inch, 1; $2\frac{1}{2}\times 1\frac{1}{2}$ -inch, 4; $2\frac{1}{2}\times 1\frac{1}{4}$ -inch, 2; $2\frac{1}{2}\times 1$ -inch, 2; $1\frac{1}{2}$ -inch, 13; $1\frac{1}{2}\times 1\frac{1}{4}$ -inch, 1; $1\frac{1}{2}\times 1$ -inch, 1; $1\frac{1}{2}\times 1\frac{1}{2}$ -inch, 1; $1\frac{1}{2}\times\frac{3}{4}$ -inch, 1; $1\frac{1}{4}$ -inch, 3; 1-inch, 36; $1\frac{1}{2}\times\frac{1}{2}$ -inch, 6; $\frac{3}{4}$ -inch, 51. Iron couplings, 3-inch, 1; $2\frac{1}{2}\times 1\frac{1}{2}$ -inch, 1; 2-inch, 26; $2\frac{1}{2}\times 1$ -inch, 1; $1\frac{1}{2}$ -inch, 25; $1\frac{1}{2}\times 1$ -inch, 1; $1\frac{1}{4}$ -inch, 7; $1\frac{1}{4}\times 1$ -inch, 10; $1\frac{1}{4}\times\frac{3}{4}$ -inch, 9; $1\frac{1}{4}\times\frac{1}{2}$ -inch, 1; 1-inch, 77; $1\frac{1}{2}\times\frac{3}{4}$ -inch, 47; $1\frac{1}{2}\times\frac{1}{2}$ -inch, 11; $\frac{3}{4}$ -inch, 21; $\frac{3}{4}\times\frac{1}{2}$ -inch, 85. Iron unions, 2-inch, 12; $1\frac{1}{2}$ -inch, 1; $1\frac{1}{4}$ -inch, 4; 1-inch, 2; $\frac{3}{4}$ -inch, 10. Iron nipples, $2\frac{1}{2}$ -inch, 5; 2-inch, 9; $1\frac{1}{2}$ -inch, 4; $1\frac{1}{4}$ -inch, 9; 1-inch, 72; $\frac{3}{4}$ -inch, 30; $\frac{1}{2}$ -inch, 3. Iron plugs, $2\frac{1}{2}$ -inch, 1; 2-inch, 1; $1\frac{1}{2}$ -inch, 5; $1\frac{1}{4}$ -inch, 22; 1-inch, 53; $\frac{3}{4}$ -inch, 59; $\frac{1}{2}$ -inch, 5. Iron caps, 2-inch, 2; $1\frac{1}{2}$ -inch, 1; $1\frac{1}{4}$ -inch, 1; 1-inch, 5; $\frac{3}{4}$ -inch, 1. Iron $\frac{1}{8}$ bends, 2-inch, 1; $1\frac{1}{2}$ -inch, 1; 1-inch, 9; $\frac{3}{4}$ -inch, 5. Iron Ys, $2\frac{1}{2}\times 1$ -inch, 7. Iron flanges, $7\frac{1}{2}\times 2\frac{1}{2}$ -inch, 2; $4\frac{1}{2}\times 1$ -inch, 1. Iron 4-ways, $2\frac{1}{2}\times 1\frac{1}{2}$ -inch, 1; $2\frac{1}{2}\times 1$ -inch, 11; $2\frac{1}{2}\times\frac{3}{4}$ -inch, 3; $1\frac{1}{2}\times 1$ -inch, 10; $1\frac{1}{2}\times\frac{3}{4}$ -inch, 1; 1-inch, 9; $1\frac{1}{2}\times\frac{3}{4}$ -inch, 2; $\frac{3}{4}$ -inch, 6. Iron bushings, $2\frac{1}{2}\times 1\frac{1}{2}$ -inch, 1; $2\frac{1}{2}\times 1\frac{1}{2}$ -inch, 3; $1\frac{1}{2}\times 1\frac{1}{4}$ -inch, 3; $1\frac{1}{2}\times 1$ -inch, 1; $1\frac{1}{2}\times\frac{1}{2}$ -inch, 1; $1\frac{1}{4}\times 1$ -inch, 1; $1\frac{1}{4}\times\frac{1}{2}$, 1; $1\frac{1}{2}\times\frac{3}{4}$ -inch, 121; $1\frac{1}{2}\times\frac{1}{2}$ -inch, 139; $\frac{3}{4}\times\frac{1}{2}$ -inch, 115; 1 2-inch A. P. Smith gate, 1 6x2-inch Smith sleeve, 2 lbs. sealing wax, 3 galls. naphtha, 6 lbs. salt, 13 rattan brooms, 30 ft. drain pipe, 300 lbs. iron, 2 bars steel, 10 ft. 2-inch rope, 1 ratchet cutter, 6 ratchet gears, 100 lbs. cotton waste, 2 galvanized iron pails, 7 hammer handles, 5 axe handles, 1 die stock, 2 quires sandpaper, $\frac{1}{2}$ box dualin, $2\frac{1}{2}$ doz. exploders, 4 $\frac{3}{4}$ -inch dies, 2-inch dies, 1 $\frac{3}{8}$ -inch die, 1 box of gas tips, 3 rubber diaphragms for pumps, 2 12-inch monkey wrenches, 1 12-inch Stillson wrench, 1 10-inch Stillson wrench, 3 $4\frac{1}{2}$ -inch steam gauges, 8 harness hooks; 1 oil can, 4 lbs. castile soap, 8 brass bolts for Edison pumps, 6 post-hydrant wrenches, 10 flush-hydrant wrenches, 1 extension sidewalk wrench, 7 gate wrenches, 4 fork wrenches, 3 tee wrenches, 7 $\frac{3}{4}$ -inch bolts.

Property and Tools at Centralville Pumping Station.

Eleven wrenches for High Duty Worthington Engine, 11 wrenches for Low Duty Worthington Engine, 11 wrenches for Morris Engine, 11

finished wrenches, 8 sets of brasses for engine, 4 spare valves for Morris Engine, 5 sets spare wrenches for valves, 1 oil cupboard, 1 bbl. cylinder oil, 18 galls. spindle oil, 2 oil dishes, 1 work bench, 1 pipe vise, 1 bench vise, 10 drills, 2 cold chisels, 1 ratchet drill, 9 taps, 1 large die plate, 1 small die plate, 1 set dies, 3 bit stocks, 5 bits, 1 extension bit, 4 caulking chisels, 1 2-inch auger, 1 level, 1 axe, 1 keyhole saw, 5 monkey wrenches, 10 pairs pipe tongs, 2 die stocks, 1 handsaw, 2 sledges, 2 copper hammers, 1 square; 1 ladle; 1 2-inch pipe cutter, 3 buck saws, 1 hack saw, 3 jack screws, 5 crowbars, 1 pair snips, 2 gas plyers, 4 hand hammers, 4 socket wrenches, 1 fore plane, 3 chisel bars, 1 tool cupboard, 1 portable forge, 2 sets differential blocks, 100 ft. 2-inch rope, 1 set fire irons, 1 brass hydrant, 3 platform scales, 1 hay scale, 3 step ladders, 8 ladders, 2 lanterns, 2 lawn mowers, 2 rakes, 2 hoes, 1 hydrant wrench, 1 small Scotch drill, 4 steel wrenches, 1 barometer, 3 thermometers, 1 truck, 2 iron wheelbarrows, 3 iron pails, 2 indicators, 1 guage, 8 guage glasses, 1 sprinkling can, 4 lbs. soap, 2 brooms, 2 pair rope falls, 1 bbl. of tallow, 2 lengths 2½-inch hose, 100 ft. 1-inch rubber hose, 1 gas lamp and tubing, 1 24-inch elbow, 1 ratchet wrench for 30-inch gate, 1 scythe, 1 snath, 1 blow pipe and patent blower, 1 furnace pot, 1 tar kettle, 8 grate sections and bars, 2 side bars for boilers, 1 10-inch valve, 3 boiler hoes, 2 sawhorses, 3 oil barrels, 2 clocks, 1 blackwalnut cabinet, 1 blackwalnut bookcase, 11 chairs, 1 table, 1 desk, 1 bed, 1 set of oil cans, 2 mops, 20 lbs. German silver packing, 31 lbs. square packing, 32 lbs. Eureka packing, 5 lbs. Vulcabestan packing, 5 lbs. garlock, 10 lbs. sheet rubber, 1 bbl. magnesia, 30 lbs. waste, 1 package emery cloth, 2 doz. bolts, 1 safety column, 2 flue scrapers, 3 steam guages, 5 cuspidors, 4 hammer handles, 1 2½-inch auger bit, 1 2-inch Jenkins valve, 2 extra check valves for H. D. Worthington, 1 set of drawings H. D. W.

Property and Tools at Driven Wells Pumping Station.

One work bench, 1 ratchet, 1 die plate, 2 screwdrivers, 1 bitstock, 3 cold chisels, 1 hack saw, 1 small pair pipe tongs, 1 thermometer, 1 clock, 3 monkey wrenches, 10 wrenches, 1 hammer, 1 pinch bar, 1 small oil can, 1 gallon measure, 2 pairs rubber boots, 1 bbl. cylinder oil, 1 tunnel, 7 large oil cans, 10 lbs. waste, 2 pails, 11 shovels, 2 coal shovels, 1 long-handle shovel, 2 lanterns, 50 feet 1-inch hose, 1 rake, 1 iron wheelbarrow, 100 feet cotton hose, 1 platform scale, 1 boiler hoe, 1 dipper, 2 brooms, 2 bars, 1 jack, 2 crowbars, 4 lamps, 1 anvil, 5 hoes, 1 grindstone, 1 brush, 1 axe, 3 wooden wheelbarrows, 1 ice chisel, 1 piece of 1¼-inch steel, 4 chairs, 1 desk, 1 guage, 1 mirror, 1 boiler plan, 1 map of Lowell, 1 Stillson wrench, 2 crowbars, 1 pump, 1 length suction hose.

Property and Tools at Machine Shop.

One 8x10 plain slide-valve engine, 1 grindstone, 1 10-foot engine lathe, 1 7-foot engine lathe, 1 5-foot speed lathe, 1 shaper, 1 upright drill, 1 emery wheel, 2 soldering furnaces, 1 large universal chuck, 1 large-end chuck, 1 small-end chuck, 38 turning tools, 13 flat chucking drills, 20 flat drills, 12 twist drills, 3 drill chucks, 12 washer cutters, 10 steel arbors, 4 large twist drills, 1 pair flat pliers, 12 lathe dogs, 3 soldering irons, 4 files, 3 reamers

for Desper meters, 2 lathe cutters with arbors, 16 taps, 19 reamers, 3 tap wrenches, 1 adjustable tap wrench, 1 hand vise, 2 bench vises, 1 belt punch, 1 large pair scales, 1 stepladder, 1 clock, 1 map showing stop gates, 1 large map of water mains, 1 railroad jack, 1 A. P. Smith tapping machine, 1 set wood chisels, 1 set bits, 1 set steel figures, 2 naphtha furnaces, 1 charcoal furnace, 1 set plumber's tools, 4 lengths $2\frac{1}{2}$ -inch hose, 3 dutchmen, 2 nozzels, 17 pairs rubber boots, 4 diagrams of meters, 4 50-foot tapes, 1 large oil can, 1 gate plan, 3 desks, 2 chairs, 2 post-hydrant wrenches, 4 paving hammers, 10 caulking hammers, 2 small oil cans, 2 hack saws, 2 floor brushes, 2 dust pans, 1 pair scissors, 1 Stillson wrench, 1 nail puller, 1 pair round-nosed pliers, 1 wire cutter, 1 bitstock, 1 pair snips, 1 foot-power lathe, 1 water cooler, 4 cuspidors, 1 mirror, 1 hat rack, 10 lbs. iron wire, 2 hand saws, 1 30-inch, 1 24-inch, 1 12-inch, 1 10-inch, 1 8-inch, 1 6-inch clip and clamps for same, 1 blasting battery and wires, 1 adze, 1 claw-hammer, 1 axe, 1 yarning iron, 1 stone hammer, 1 scale and weights, 3 caulking sets, 4 diamond points, 8 cutting hammers, 4 caulking wedges, 1 copper boiler, 1 ice chisel, 1 hoe, 4 brass hand pumps, 150 feet block tin tubing, 1 naphtha can, 1 battery, wires, and bell, 1 marine pump, 2 lengths suction hose.

Property and Tools at Pipe Department.

One pair chain tongs, 5 Stillson wrenches, 4 monkey wrenches, 3 tapping machines, 3 full sets of rubbers for tapping machines, 2 1-inch combination taps and drills, 2 $\frac{3}{4}$ -inch combination taps and drills, 1 stationary forge, 1 portable forge, 1 set blacksmith tools, 1 bit stock, 1 level, 3 screwdrivers, 2 pipe vises, 8 die stocks, 24 dies, 5 pipe cutters, 8 pipe tongs, 1 gate ratchet, 2 ratchets, 6 cold chisels, 9 taps, 10 steel drills, 3 files, 1 hand-saw, 2 washer cutters, 1 handboring bar, 4 oil cans, 6 assorted wrenches, 1 draw shave, 1 marlin spike, 1 galvanized iron pail, 4 post-hydrant wrenches.

Tools in Meter Department.

One tool bag, 3 Stillson wrenches, 1 monkey wrench, 1 naphtha lamp, 2 small meter wrenches, 1 L. W. W. seal, 1 cold chisel, 2 pairs plyers, 1 hammer, 1 saw, 2 screwdrivers.

Property and Tools at Tool House.

Five hundred lbs. steel drills, 50 picks, 44 round pointed shovels, 2 square pointed shovels, 30 pick handles, 7 crowbars, 4 steel bars, 3 lead pots, 9 caulking hammers, 50 caulking tools, 8 cutters, 5 yarning irons, 6 sledge hammers, 8 striking hammers, 12 gate wrenches, 11 small gate wrenches, 3 fork wrenches, 12 tee wrenches, 8 hydrant wrenches, 10 post-hydrant wrenches, 3 scoop shovels, 1 scoop dipper, 1 bbl. kerosene oil, 15 mauls, 4 paving mauls, 3 derrick falls, 6 tag ropes, 4 ladles, 24 lanterns, 4 chains, 12 iron pails, 50 ft. 1-inch rubber hose, 1 long-handle shovel, 3 oil cans, 3 axes, 3 hammer handles, 1 axe handle, 1 rake, 1 level, $\frac{1}{2}$ keg spikes.

Property at Stable.

Six horses, 8 single harnesses, 1 set double harness, 6 stable blankets, 6 street blankets, 5 wagons, 5 sleighs, 1 single truck, 1 2-horse truck, 6

rubber horse covers, 6 halters, 1 lap robe, 1 wolf skin robe, 4 forks, 3 brooms, 3 mane brushes, 4 curry combs, 4 horse brushes, 1 string bells, 2 chamois skins, 1 box harness soap, 2 carriage sponges, 4 harness sponges, 2 wagon jacks, 1 hay cutter, 2 feed boxes, 1 sprinkling can, 9 whips, $2\frac{1}{2}$ tons hay, 4 bales straw, 80 bushels oats, 2 bags corn, 2 bags shorts.

Property at Reservoir.

One boat, 1 long handle shovel, 1 wooden shovel, 1 square shovel, 2 long handle spades, 1 iron rake, 2 wooden rakes, 1 saw, 1 square, 2 ice chisels, 2 picks, 1 crowbar, 1 scythe, 1 weelbarrow, 1 lantern, 1 stool, 1 axe, 1 hammer, 1 monkey wrench, 2 lawn mowers, 1 hose and carriage.

Property at Gallery Gate House.

One boat and oars, 2 pairs falls, 3 ice poles, 1 gate wrench, 1 shovel, 1 fork wrench, 1 tee wrench, 2 oil cans, 2 tag ropes, 2 brooms, 1 iron pail, 1 dipnet.

Property at Filter Inlet.

Ten shovels, 5 hoes, 2 rakes, 3 wheelbarrows, 1 gate wrench, 1 ice chisel, 1 pick.

Property at Superintendent's Office, Centralville.

Two desks, 3 chairs, 1 case drawers and bookcase, 1 hat rack, 1 letter-file, 1 stand, 1 gate plan, 1 letterpress, 1 map of Lowell, 2 pictures, 1 plan of gates on force mains, 1 diagram of 30-inch gate at reservoir, 2 feather dusters, 1 cuspidor, 15 framed notices.

Movable Fixtures and Property at Office, City Hall.

Two roll-top desks, 2 standing desks, 1 double flat desk, 1 3-place inspector's-desk, 2 single inspector's desks, 2 heavy oak tables, 1 typewriter desk, 1 Remington typewriter, 2 small tables, 1 vault table, 2 swivel upholstered chairs, 6 upholstered chairs, 12 cane-seated armchairs, 3 swivel cane-seated chairs, 1 high chair, 3 stools, 1 step-chair, 1 settee, 1 bookcase, 1 water tank, 2 water-pressure gauges, 2 thermometers, 1 clock, 2 table gas-lamps, 2 Crown meters, 12 framed pictures, 2 floor rugs, 2 rubber mats, 1 set street tools, 2 earthen spittoons, 6 brass spittoons, 5 waste-paper baskets, 1 shovel (historic), 2 mirrors, 1 letter copying-press, 1 umbrella rack, 1 umbrella jar, 20 ink-stands, 2 pen racks, 1 gas stove, 3 book racks, set tools (hammer, wrench, 2 screw-drivers, wire cutter), 3 tumblers, boot-blackening outfit, 1 hair brush, 1 clothes brush, 1 dozen towels, 1 match chest, 1 fire-insurance map of Lowell, 1 gas radiator, 5 tin yearly boxes, 1 copy stand.

REPORT OF THE CITY ENGINEER.

OFFICE OF CITY ENGINEER,

LOWELL, MASS., Jan. 1, 1894.

TO THE LOWELL WATER BOARD:

Gentlemen,—The Twenty-first Annual Report of the work of the pumping engines at the Pumping Station of the Lowell Water Works is as follows:

The Worthington High-Duty Engine has been used almost exclusively; the Morris Engine having run but twenty-six days, and the Worthington Duplex Engine but six hours during the year.

The Worthington High-Service Engine has pumped 29,858,528 gallons; a decrease from last year's work of 2,885,260 gallons. The expense of pumping the same, including cost of pumping into low-service reservoir, has been \$14.98 per million gallons.

The pumpage into the low-service reservoir has been 2,296,403,810 gallons, and the pumpage at the Driven Wells plant has been 191,571,334 gallons, making total pumpage for the year 2,487,975,144 gallons, an increase of 262,648,094 gallons over last

year. All the water pumped at the station has been pumped into the reservoir; the pipe connecting the force main with the city mains at Bridge Street has not been used. By discontinuing the use of this pipe the improvement in the quality of the water due to the action of the reservoir as a settling basin is fully taken advantage of—a matter of very great importance in the case of Merrimack River water.

The Morris Engine has been in the hands of the Wheelock Engine Company, of Worcester, Mass., during the entire year. It has been set up and several preliminary tests made, but at every trial some little alteration has been found necessary, so that the final test has not yet been made.

**TABLE SHOWING WORK DONE WITH MORRIS ENGINE (BEAM AND FLY WHEEL) AND BOILERS
FOR EACH MONTH DURING THE YEAR 1893.**

MONTHS.	No. of days pump- ing.	Av. No. of hours pumping per day.	No. of hours pumping per month.	No. of strokes made per month.	Av. No. of strokes made per minute.	Av. head, including friction, in feet.	Quantity pumped per month in U. S. gallons.	Average quantity pumped per day in U. S. gallons.	No. galls. of water raised into reservoir per lb. total coal consumed	Duty in lbs. 1 ft. high with 100 lbs. coal, used in pumping only, no deduc- tion for ashes or clinkers.	Duty on total coal consumed, no deduction for ashes or clinkers.
January.....											
February											
March											
April											
May											
June.....	8	19-02	152-15	116,183	12.72	163.65	37,178,560	4,647,320	498	70,340,426	
July	2	10-52	21-45	16,924	12.97	163.65	5,415,680	2,707,840	274	37,375,897	
August	3	14-45	44-15	23,980	9.63	162.45	7,673,600	2,557,866	381	51,558,143	
September	1	4-15	4-15	3,952	15.50	162.45	1,264,640	1,264,640	265	35,893,983	
October											
November	3	11-35	34-45	27,379	13.13	165.05	8,761,280	2,920,427	366	50,360,953	
December.....	9	17-22	156-15	105,516	11.25	163.65	33,765,120	3,751,680	556	79,251,853	75,857,596
Total and av'ges.	26	15-54	413-30	293,934	11.85	163.65	94,058,880	3,617,649	467	64,526,765	63,693,779

The above table was compiled from the record of trial runs made by the Wheelock Engine Co. during progress of repairs.

TABLE SHOWING WORK DONE WITH WORTHINGTON HIGH DUTY PUMPING ENGINE FOR EACH MONTH DURING THE YEAR 1893.

MONTHS.	No. of days pumping.	Av. No. of hours pumping per day.	No. of hours pumping month.	No. of strokes made per month.	Av. No. of strokes made per minute.	Av. head, including friction, in feet.	Quantity pumped per month in U. S. Gallons.	Average quantity pumped per day in U. S. gallons.	No. galls. of water raised into reservoir per lb. of total coal consumed	Duty in lbs. 1 ft high with 100 lbs. coal, used in pumping only, no deduction for ashes or clinkers.	Duty on total coal consumed, no deduction for ashes or clinkers.
January	31	21-20	661-15	714,026	18.00	160.63	267,759,750	8,637,411	704	95,189,244	94,188,739
February	28	22-03	617-30	666,283	17.98	162.11	249,856,125	8,923,433	722	99,174,659	97,513,022
March	29	18-52	547-15	579,447	17.64	165.12	217,292,625	7,492,849	705	100,875,267	97,076,386
April	29	15-19	444-15	446,555	16.75	164.87	167,458,125	5,774,418	701	102,088,376	96,359,444
May	30	16-36	498-00	496,269	16.60	165.58	186,100,875	6,203,363	702	101,772,934	96,932,733
June	21	19-04	400-30	406,562	16.92	165.25	152,460,750	7,260,036	726	103,883,349	99,928,116
July	29	17-51	517-45	544,598	17.53	163.39	204,224,250	7,042,216	749	106,380,588	101,935,258
August	30	17-17	518-45	538,752	17.31	162.94	202,032,000	6,734,400	735	103,648,329	99,875,047
September	30	13-58	419-00	441,733	17.57	163.83	165,649,875	5,521,663	704	103,271,381	96,158,533
October	29	11-34	335-30	360,627	17.91	163.31	135,235,125	4,663,280	712	110,342,137	96,869,289
November ..	25	11-47	294-45	311,763	17.63	164.04	116,911,125	4,676,445	684	105,860,488	93,477,848
December	23	15-18	351-45	363,409	17.22	163.29	136,278,375	5,925,147	671	97,182,133	91,342,583
Totals and av'ges	334	16-47	5,606-15	5,870,024	17.45	163.65	2,201,259,000	6,590,596	711	101,875,822	96,991,578

**TABLE SHOWING AMOUNT OF COAL USED FOR MORRIS
ENGINE AT PUMPING STATION DURING
THE YEAR 1893.**

MONTHS.	COAL CONSUMED.			
	For starting fires, in lbs.	When pump- ing, in lbs.	For banking fires, in lbs.	Total per month, in lbs.
January.....				
February.....				
March.....				
April				
May				
June		72,087		72,087
July		19,762		19,762
August.....		20,150		20,150
September		4,770		4,770
October				
November.....		23,930		23,930
December	2,400	58,107	200	60,707
Totals.....	2,400	198,806	200	201,406

**TABLE SHOWING AMOUNT OF COAL USED FOR WORTH-
INGTON HIGH DUTY ENGINE DURING THE YEAR 1893.**

MONTHS.	COAL CONSUMED.			
	For starting fires, in lbs.	When pump- ing, in lbs.	For banking fires, in lbs.	Total per month, in lbs.
January.....	4,000	376,563		380,563
February.....	5,000	340,371	800	346,171
March	10,000	296,424	1,600	308,024
April	11,000	225,385	2,400	238,785
May	11,000	252,335	1,600	264,935
June	8,000	202,119		210,119
July.....	11,000	261,411	400	272,811
August.....	10,000	264,691		274,691
September	16,200	219,007		235,207
October	17,400	166,807	5,800	190,007
November	15,000	150,982	5,000	170,982
December	9,000	190,833	3,200	203,033
Totals	127,600	2,946,928	20,800	3,095,328

TABLE SHOWING WORK DONE WITH WORTHINGTON HIGH SERVICE ENGINE FOR EACH MONTH
DURING THE YEAR 1893.

MONTHS.	No. of days pump- ing.	Av. No. of hours pump- ing per day.	No. of hours pump- ing per month.	No. of strokes made per month.	Av. No. of strokes made per minute.	Av. head, including friction, in feet.	Quantity pumped per month, in U. S. gallons.	Average quantity pumped per day, in U. S. gallons.	No. galls. of water pumped into reservoir per lb. total coal consumed	Coal, in lbs., used when pumping.
January	9	8-22	75-15.	196,701	43.57	79.72	2,753,814	305,979	304	9,069
February	7	9-23	65-45	181,239	45.94	79.70	2,537,346	362,478	300	8,456
March	8	7-09	57-15	158,283	46.08	78.84	2,215,962	276,995	300	7,386
April	8	7-26	59-30	163,803	45.88	78.84	2,293,242	286,655	300	7,645
May	8	7-54	63-15	181,933	47.94	78.84	2,547,062	318,382	298	8,555
June.....	7	9-26	66-00	174,834	44.15	77.87	2,447,676	349,668	300	8,158
July	8	11-43	93-45	242,225	43.06	78.84	3,391,150	423,894	300	11,305
August	8	8-54	71-15	191,124	44.71	78.98	2,675,736	334,467	303	8,830
September	7	8-30	59-30	164,148	45.98	78.54	2,298,072	328,296	300	7,662
October.....	6	9-53	59-15	158,103	44.47	77.94	2,213,442	368,907	303	7,306
November.....	5	10-27	52-15	145,390	46.38	77.78	2,035,460	407,092	304	6,685
December.....	7	9-47	68-30	174,969	42.57	77.71	2,449,566	349,938	300	8,165
Totals and averages	88	9-00	791-30	2,132,752	44.91	78.70	29,858,528	339,301	301	99,222

PUMPING STATION—MORRIS ENGINE.

RUNNING EXPENSES FOR THE YEAR 1893.

Pay of engineers and firemen.....	\$230 30
100 $\frac{1}{2}$ $\frac{4}{1000}$ tons coal (Cumberland, 1893) @ \$4.259....	428 89
1-2 cord of wood, @ \$4.00.....	2 00
Gas for lighting works.....	7 21
Electric light	11 44
30 gallons cylinder oil, @ 61c.....	18 30
30 pounds cotton waste, @ 8c.....	2 40
12 pounds Eureka packing, @ 61c... ..	7 32
Repairs on boilers.....	14 27
Tools and stock.....	1 57
Sundries	3 42
Total	\$727 12
Cost of pumping water into reservoir per million gallons	7 73
Cost of pumping water one foot high per million gallons.....	0.04 $\frac{7}{100}$

PUMPING STATION—WORTHINGTON HIGH DUTY ENGINE.**RUNNING EXPENSES FOR THE YEAR 1893.**

Pay of engineers and firemen	\$5,352 86
500 $\frac{9.66}{2000}$ tons coal (Cumberland, 1892), @ \$4.079...	2,041 47
442 $\frac{3.6}{2000}$ tons coal (Cumberland, 1893), @ \$4.045...	1,787 96
605 $\frac{3.26}{2000}$ tons coal (Cumberland, 1893), @ \$4.259...	2,577 39
11 1-2 cords wood, @ \$4.00.....	46 00
Gas for lighting works.....	173 08
Electric light	274 56
215 gallons cylinder oil, @ 61c.....	131 15
26 $\frac{9.3}{100}$ gallons machine oil, @ 25c.....	6 73
675 pounds cotton waste, @ 8c.....	54 00
176 pounds packing.....	73 94
Repairs on engine.....	14 00
Repairs on boilers (new grates, etc.).....	342 56
Tools and stock.....	37 66
Sundries	82 29
Total	\$12,995 65

Cost of pumping water into reservoir per million gallons.....	5 90
Cost of pumping water one foot high per million gallons	0.03 $\frac{6.1}{100}$

RESERVOIR, BEACON STREET, 1893.

MONTHS.	Depth, in feet.	Quantity in U. S. gallons.	Temperature, in degrees	
			Of water.	Of air.
January.....	18.35	27,754,379	34.	18.27
February	18.88	28,628,482	34.	23.61
March	18.66	28,267,626	34.	32.32
April	19.36	29,431,263	36.53	43.95
May	19.03	28,889,988	50.06	58.
June	18.70	28,327,250	64.71	69.52
July	18.98	28,800,905	69.37	73.94
August.....	18.99	28,818,988	68.71	71.38
September	18.85	28,577,065	60.62	61.50
October	19.19	29,146,408	52.60	56.75
November.....	18.49	27,987,935	38.78	40.82
December	19.08	28,966,574	34.	27.03

TABLE SHOWING AVERAGE MONTHLY AND DAILY CONSUMPTION OF WATER FOR THE YEAR 1893.

MONTHS.	Gallons per month.	Gallons per day.
January	268,455,979	8,659,870
February.	248,880,420	8,888,586
March.....	216,942,470	6,998,144
April.....	169,407,576	5,646,919
May.....	183,236,965	5,910,870
June	189,921,322	6,330,711
July	210,692,436	6,796,530
August.....	209,145,241	6,746,621
September.....	185,842,820	6,194,761
October	198,880,816	6,415,510
November	179,701,589	5,990,053
December	227,076,730	7,325,056
Totals and averages	2,488,184,364	6,816,943

SUMMARY OF STATISTICS.

REPORT OF 1893.

*In accordance with the recommendations of the New England
Water Works Association.*

LOWELL WATER WORKS, MIDDLESEX COUNTY, MASS.

Population by census of 1890, 77,696.

“ State Board of Health, 1893, 87,191. .

Date of construction....1870 to 1873.

“ “ High service....1881.

By whom owned ...City of Lowell.

Source of supply....Merrimack River, through filter gallery,
filter bed, and direct.

Mode of supply....Pumping through force mains to reservoir,
thence by gravity through distribution pipes.

PUMPING.

1. Builders of pumping machinery, { Henry G. Morris.
Henry R. Worthington.
2. Description of coal used:
 - (b) Kind....bituminous.
 - (c) Size....broken.
 - (d) Brand....New River, Cumberland.
 - (e) Price per gross ton delivered....\$4.64.
 - (g) Wood, price per cord....\$4.00.
3. Coal consumed for the year in pounds....3,398,659.
4. Wood consumed for the year in, lbs.,

$$\frac{\quad}{3} = \text{coal in pounds} = 7,200.$$
5. Total fuel consumed for the year (3)+(4)....3,405,859.
6. Total pumpage for the year, in gallons....2,296,403,810.*
7. Average static head against which pumps work....155.80.
8. Average dynamic head against which pumps work...163.65.

* This quantity does not include 191,571,334 gallons pumped into distribution pipes at experimental driven wells plant.

9. Number of gallons pumped per pound of coal ...676.
10. Duty in foot pounds per 100 pounds of coal, using following formula, making no deduction for starting or banking fires or heating building:

$$\text{Duty} = \frac{\text{Gallons pumped (6)} \times 8.34 \text{ (lbs.)} \times 100 \times \text{dynamic head (8)}}{\text{Total fuel consumed (5)}} = 92,024,553.$$

COST OF PUMPING FIGURED ON PUMPING STATION EXPENSES
OF \$13,728.77.

11. Per million gallons raised against average dynamic head (8) into reservoir ...\$5.98.
12. Per million gallons raised one foot high (dynamic)....
0.03₁₀₆⁶⁵

ANALYSIS OF MERRIMACK RIVER WATER, BY THE STATE
BOARD OF HEALTH.

The past year is the seventh consecutive year in which a sample of water has been taken every month from the Merrimack River opposite the inlet pipe, and sent to the State Board of Health for analysis.

The analysis for the year 1893 is appended to this report.

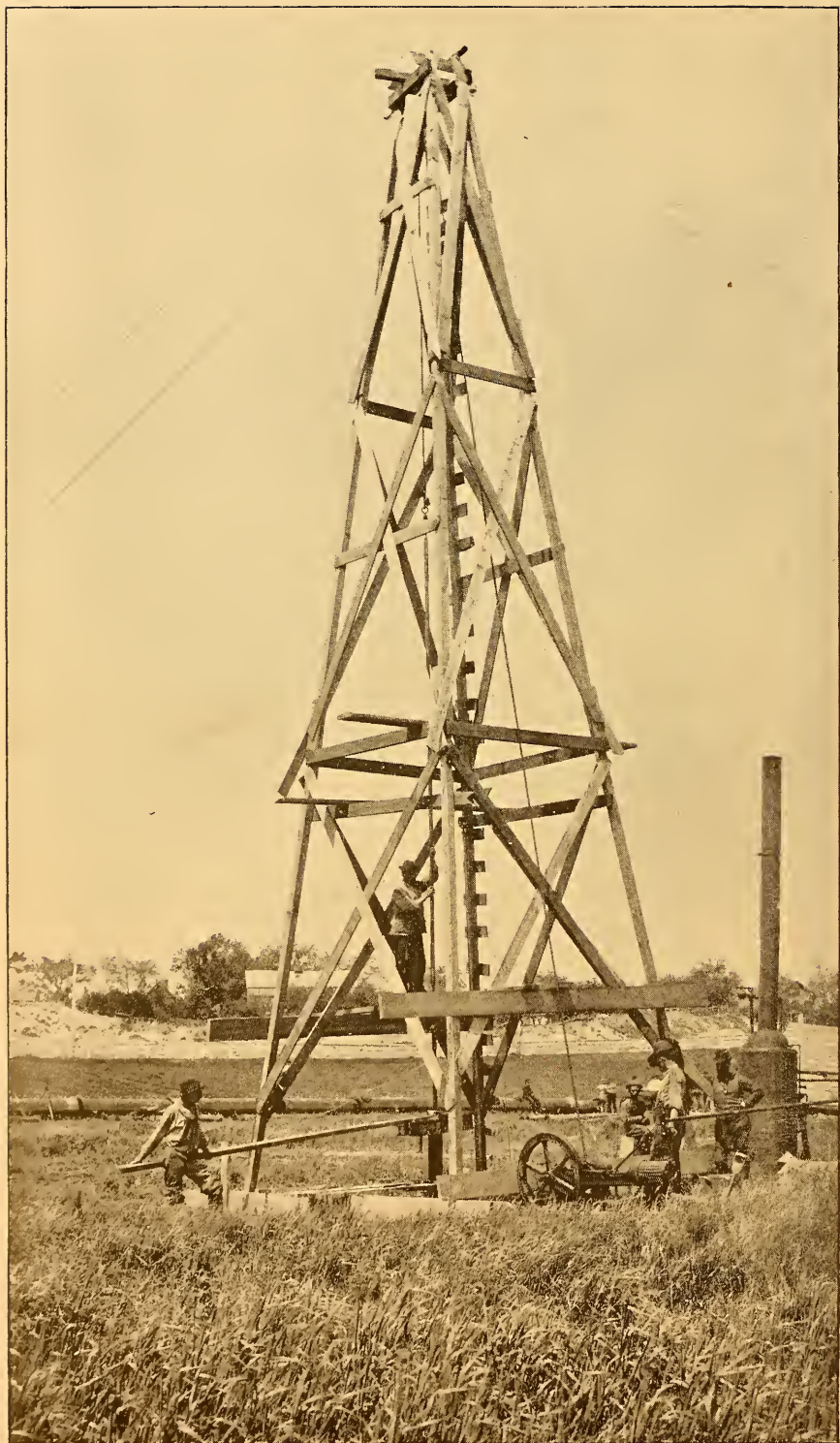
1893 WATER SUPPLY OF LOWELL.

Chemical Examination of Water from the Merrimack River above Lowell, opposite the Intake to the Lowell Water Works.

BY THE MASSACHUSETTS STATE BOARD OF HEALTH.

(PARTS IN 100,000.)

No.	DATE OF		APPEARANCE.		ODOR.		RESIDUE ON EVAPORATION.		AMMONIA.			Chlorine.	NITROGEN AS		Hardness.	Iron.	Oxygen Consumed		
	Col- lec- tion.	Ex- am- i- na- tion.	Turbid- ity.	Sediment.	Color	Cold.	Hot.	Total.	Loss Igni- tion.	Fixed.	Free.		Albuminoid.						
												Total	In so- lution	In ex- haust					
9,888	Jan., 17	1893.	Very slight.	Very Slight.	0.35	Faintly earthy and mouldy.	Distinctly mouldy.	3.80	1.15	2.65	.0054	.0156	.0132	.0024	.0100	.0001	1.2	.0150	.4672
10,012	Feb., 14	1893.	Distinct.	Consider-ably whitish.	0.40	Decidedly mouldy.	Decidedly mouldy.	3.45	1.40	2.05	.0012	.0210	.0166	.0044	.0050	.0001	1.8	.0160	.5235
10,115	March, 14	1893.	Slight.	Consider-ably earthy.	0.40	Decidedly mouldy and disagreeable.	Distinctly mouldy.	3.25	1.10	2.15	.0026	.0178	.0140	.0038	.0180	.0000	0.9	.0180	.4721
10,261	April, 18	1893.	Slight.	Consider-ably earthy.	0.43	Decidedly mouldy.	Decidedly mouldy and disagreeable.	2.65	1.05	1.60	.0004	.0142	.0110	.0032	.0050	.0000	0.8	.0085	.4526
10,407	May, 16	1893.	Decided.	Consider-ably earthy.	0.50	Faintly vegetable.	Very faint or none.	3.25	1.10	2.15	.0004	.0102	.0088	.0014	.0050	.0002	0.8	.0140	.5548
10,536	June, 20	1893.	Very slight.	earthy. Slight.	0.20	Distinctly vegetable.	Distinctly vegetable.	3.00	0.95	2.05	.0014	.0150	.0106	.0044	.0070	.0000	1.1	.0075	.3718
10,675	July, 18	1893.	Slight.	Slight.	0.10	Distinctly vegetable and mouldy.	Faintly vegetable.	3.60	1.15	2.45	.0020	.0170	.0140	.0030	.0050	.0002	0.9	.0125	.2886
10,869	Aug., 22	1893.	Slight.	Slight.	0.18	Very faintly vegetable.	Distinctly vegetable	3.70	1.45	2.25	.0010	.0128	.0084	.0044	.0030	.0002	1.1	.0060	.3397
11,045	Sept., 19	1893.	Slight.	Slight yellow.	0.40	Very faint or none.	Distinctly vegetable and grassy.	3.55	0.85	2.70	.0042	.0156	.0138	.0018	.0050	.0001	1.3	.0150	.4387
11,209	Oct., 17	1893.	Slight.	Slight.	0.30	Faintly mouldy.	Very faint or none.	3.25	1.25	2.00	.0050	.0114	.0084	.0030	.0050	.0000	1.3	.0200	.3483
11,366	Nov., 21	1893.	Very slight.	Slight.	0.30	Distinctly mouldy.	Faintly mouldy.	3.75	1.15	2.60	.0032	.0128	.0106	.0022	.0100	.0000	1.1	.0180	.5124
11,521	Dec., 19	1893.	Very slight.	Very slight.	0.45	Distinctly mouldy.	Decidedly mouldy.	3.40	1.50	1.90	.0044	.0148	.0144	.0004	.0100	.0001	1.3	.0085	.5548



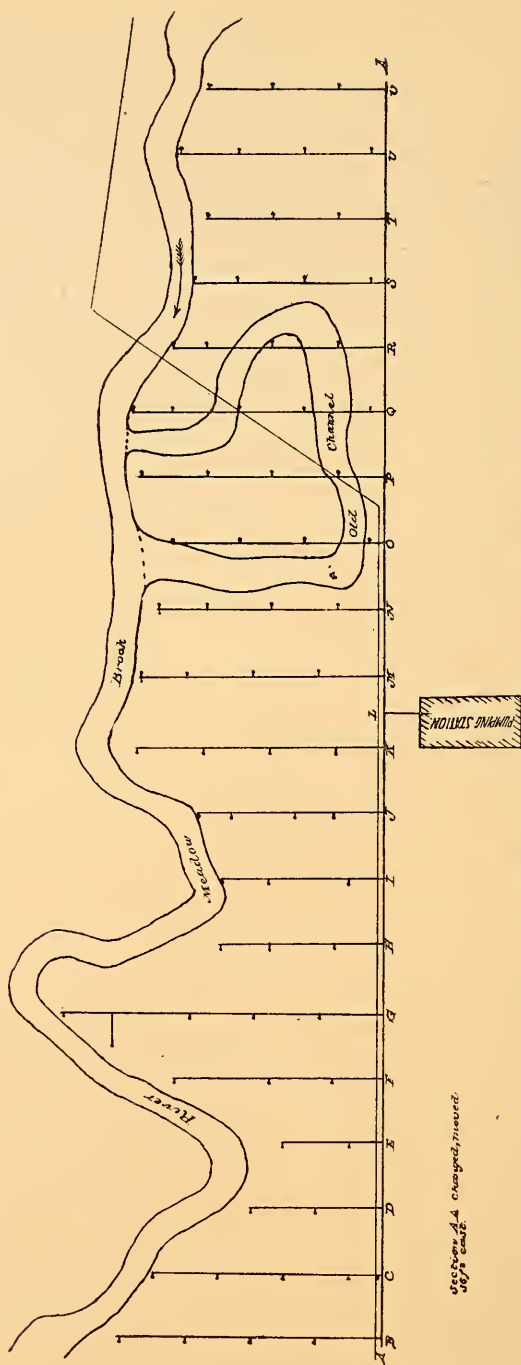
SINKING VERTICAL TUBE WELL.

NEW SUPPLY.

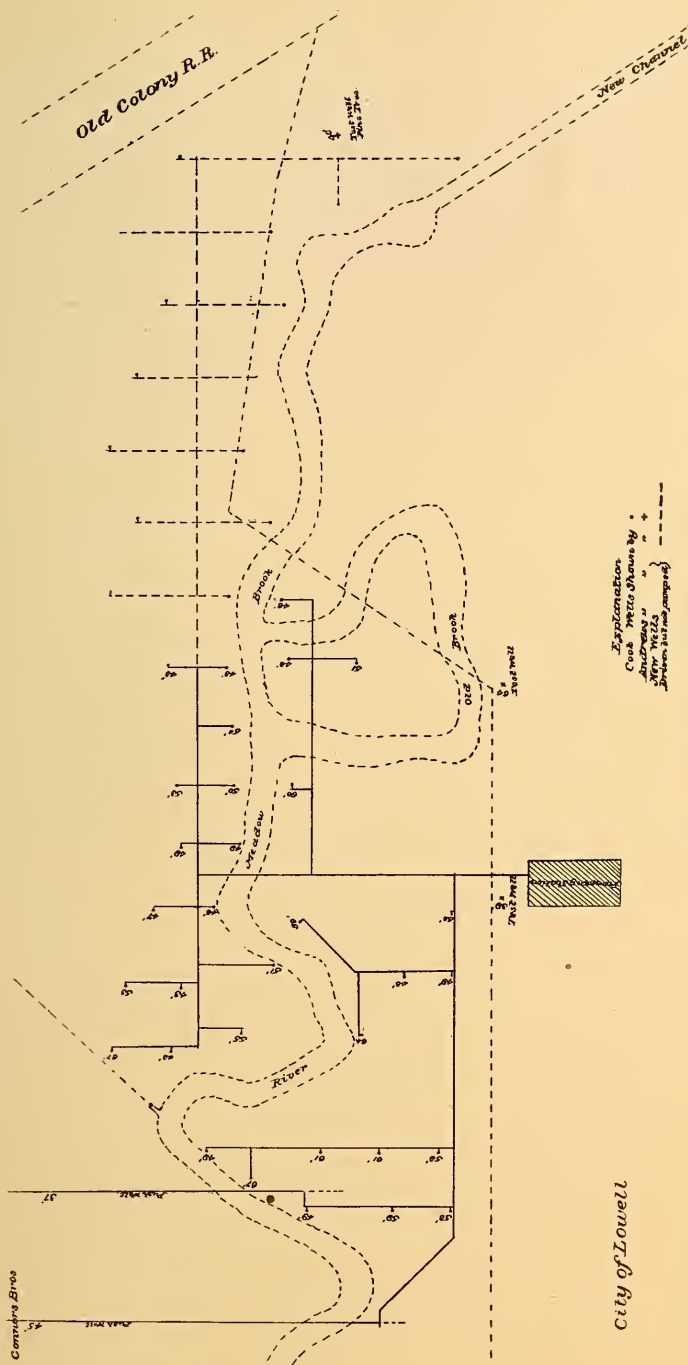
The contract with the Cook Well Company for supplying the City of Lowell daily with 5,000,000 U. S. gallons of water from tube wells at or near the City Farm having been made, their representatives arrived in Lowell Feb. 15th; but owing to the non-arrival of machinery from the West and the very severe storms, and afterward to the great depth of water in the valley of River Meadow Brook, the first test well was not sunk until March 7th. After this seventeen wells were put down to test the material; but owing to high water these wells were located on the high places or ridges and did not cover the ground where the wells were subsequently located.

April 22d Mr. Cook located the plant and the work of sinking the permanent wells was immediately begun, and carried on as fast as circumstances would allow, until Sept. 22d, when the first test of quantity was made. (See "Plan of Tube Wells" as first designed.)

It was soon found that the formation of the earth was very irregular, and to follow any plan previously laid out would be impracticable; consequently, while trying to follow a general plan, the wells when completed bore but slight resemblance to the original design. This place was full of surprises and difficulties; after getting a very good well at one point, the next trial might be a total failure and



PLAN OF TUBE WELL PLANT AS DESIGNED MARCH 7, 1893.



City of Lowell

PLAN OF TUBE WELL PLANT AS BUILT JAN. 1, 1894.

the pipe would have to be pulled up and another location selected.

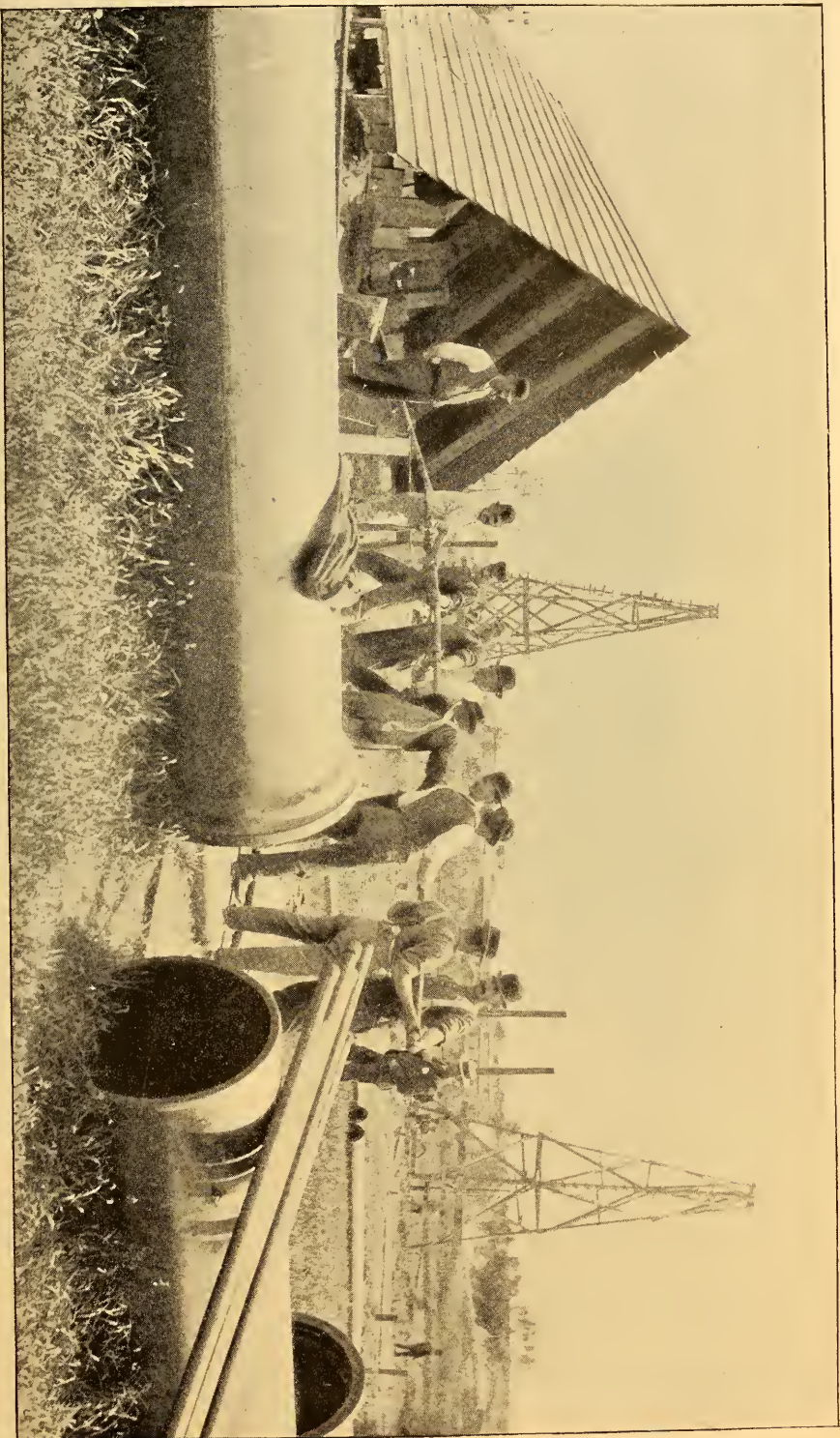
Some of the wells are sunken in material which has nearly all the fine sand washed out so as to give a very free stratum through which the water passes to the wells. Each of these wells will pump from 200 to 240 gallons per minute.

The wells vary in depth from 47 to 67 feet; the average depth being 54.6 feet on the west side of the brook and 50 feet on the east side.

All the wells are six inches in diameter and made of the best quality of iron pipe. The pipe used in the wells and connections has been thoroughly coated with coal pitch varnish applied while the pipe and pitch were very hot. This makes a smooth coating which will not scale off, is not brittle, and is very tough and tenacious when cold.

The pipe connections are all flanged joints with rubber gaskets, and no bell or spigot pipe is used on the suction side of the pumps. Every well is provided with a gate, so that it can be shut off from the gang at any time and examined, cleaned out, and repaired without stopping the pumps.

Upon each of the four branches of plant as shown upon "Plan of Tube Wells as Built" a large gate has been placed so that any section of wells may be shut off from the rest. These gates were not in the original plan, but were added so that the plant might be run while extensive alterations in the pipes were being made and additional wells connected.



BUCKETING OUT INCLINED PUSH WELL.



Before the wells were connected and pumped by steam, the elevation of the water in every well was nine inches above the level of the water in the brook; and as the level of water in the brook rose and fell, the elevation of the water in the wells changed just the same amount; the water from the wells always flowing into the brook.

The method of sinking wells used by the Cook people is very different from that employed in our former experiments. The pipe used here is six inches in diameter, and is sunk down by the use of a sand bucket nearly as large as the interior of the pipe and about six feet long. The bucket is raised and lowered by wooden rods connected together at the ends, so that when in the well they act as one rod and make the bucket very efficient in its work. This bucket removes all the material from the inside of the pipe, and when it is sunk in gravel, stones five and one-half inches in diameter have been removed with it. While the earth is being removed, the pipe is gently turned or rocked and goes down by its own weight. This is a very rapid manner of getting pipe down through quicksand. In very hard gravel the pipe is sometimes driven a little with a heavy wooden weight. If stones too large to come up through the pipe are encountered, they are broken with a large drill, or, if this is impossible, the pipe is pulled up and the location changed.

The two push wells, so called, were put down in the spring. These wells are constructed by build-

ing a strong dam to press against, and using a very strong clamp on the pipe. The pipe is pushed into the ground by the use of four jack screws. This is a very slow and expensive way, but allows a very long screen to be placed in a narrow stratum of water-bearing material, and has worked very well at other places, but here, the material is not uniform enough to warrant the outlay. They are both good wells, but not enough better than the others to pay the difference in cost.

All the wells are made with the Cook patent strainer, varying in length from eight (8) feet to seventeen (17) feet, according to the depth of the water-bearing stratum. The screens in the push wells are, one 24 feet and the other 42 feet in length.

After the screens are swedged into the well pipe and the well thoroughly pumped and washed by steam, the water is perfectly clear and no sand comes through the screen. The screens being made from a drawn brass tube there is no chance for rust or corrosion, and to all appearances they are very durable and they certainly are very fine specimens of mechanical skill.

A careful record of the depth of each layer of material is kept, and a great many samples showing the exact character of the earth in which the wells are situated have been taken and preserved. A record has also been kept of the amount of water each well yields when pumped by steam before being connected with other wells.



JACKING DOWN PUSH WELL.



The yield of forty-four wells when pumped singly was over 5,000 gallons per minute, being at a rate of over 7,000,000 gallons per day. This quantity was thought to be large enough to warrant their being connected, and a test made of the quantity they would yield collectively.

The plant then consisted of forty-four wells made up as follows: Wrought-iron well pipe, 1914 feet; patent strainer, 603 feet; cast-iron pipe connections varying in diameter from 6 inches to 24 inches, 3031 feet.

The contract with the Cook people requires that the contractor shall remove all the soil around the wells and under the suction mains and fill the space with good gravel for a foundation for the suction mains to rest upon. This has been done. The City will be required to cover the pipes when needed.

The pumping station is a temporary wooden building 40x80 feet. The pumping machinery consists of two old boilers, formerly used at the West Sixth Street Pumping Station, tested and warranted to carry a steam pressure of 70 lbs. to the square inch, and two pumping engines of the compound duplex pattern, each having a pair of 16-inch high-pressure steam cylinders, a pair of 24-inch low-pressure steam cylinders, a pair of 16½-inch water plungers, and making an 18-inch stroke.

Each engine is guaranteed to be capable of discharging, at an approximate piston speed of 100

feet per minute, 3,000,000 gallons of water in twenty-four hours from the suction pipe of the tube well plant into the distribution pipes, against a pressure of 80 lbs. per square inch, with a steam pressure of 70 lbs. per square inch. The pumps are regular stock pumps, and can be sold for a fair price when the size and kind of a pump needed is decided upon. The following clause is in the contract for the purchase of the same: "It being understood that the above described pumps are only for temporary service, we agree to endeavor to assist the purchasers in disposing of the machines after their period of service is ended."

The setting of the pumps for a tube well plant should be as low as possible, in order to get the best results. The pumps are set as low as the situation would allow. A water-tight pit was constructed in which the engines were set below high-water level.

The pipe required to connect the Wells pumping station with the City mains is as follows:—

STREET.	LOCATION	LENGTH IN FEET.					TOTAL
		12 in.	16 in.	0 in.	24 in.	30 in.	
Force Main.....	Station to Plain					1406	1406
Plain	Chelmsford to Tanner .			710	460		1170
Parker and Plain,	Chelmsford to Wilder..	1784					1784
Tanner.....	Plain to Lincoln.....		1009				1009
Totals.		1784	1009	710	460	1406	5369

By vote of the Water Board the size of the force main and pipe in Plain Street was increased in order to make the pipe large enough to carry a greater amount of water than was called for in the Cook contract or original estimate. All the pipe except the force main is a connecting line between the systems of pipe in Ward Three and Ward Four, and is of great advantage to the general pipe system of the City.

The pumps were started and the water from forty-four wells forced into the city mains on Sept. 16th; the result being a supply of 2,000,000 gallons per day. At first the working of the pumps was greatly retarded by the leakage of air into them and also into the suction pipe and its branches. This trouble has been partially overcome by the stopping of every leak which could be detected.

In order to still further relieve the pumps, an air pump was attached to the air chambers on the suction main; but this is not satisfactory and some other method for removing the air before its arrival at the pumps will have to be employed.

As there are several methods of removing air from tube well plants I would recommend that the matter be fully investigated before making any further changes.

After a test of a few days it became evident to the contractor that he had located the wells too near together and that they must be made to cover more territory. Experiments were at once begun to

ascertain which of these wells and how many of them could be cut off without affecting the quantity of water obtained. This resulted in the removal of twelve wells, leaving thirty-two from which 2,235,000 gallons has been pumped in twenty-four hours.

The amount of water pumped each month into the City mains is as follows, viz:—

September.....	19,702,464	gallons.
October	62,871,532	"
November	53,678,678	"
December	55,318,660	"
Total	191,571,334	"

The smaller amount of water obtained in the last two months was not due to any falling off of water in the wells, but was simply the result of the experiments above referred to.

This we know from the measurement of the elevation of the ground water in test wells located outside the plant. These measurements have been taken several times a day since the pumping started and a record made of the same.

About the middle of October, Mr. Cook came to Lowell and personally examined the plant and its surroundings. After sinking a number of test wells on the east side of the brook and on the east side of the Framingham Railroad, he decided to extend the plant southerly on the east side of the brook to the railroad. This has been done; fifteen wells

have been put down and are being connected at the present time; these will be ready to pump from in one or two weeks. The indications are that these are all excellent wells and a moderate estimate of their yield is 1,000,000 gallons, making the present plant a 3,000,000-plant, about one-half the entire amount needed to supply the whole City. This is not what was expected in the spring, and not what I expect to get in the future from this valley. The wells do not cover territory enough to collect the water supplied by this large water shed.

Mr. Cook, during his last visit here again expressed his confidence in being able to fulfil his contract. If, however, the City never obtains more than 3,000,000 gallons daily, the experiment is a very successful one for many reasons. First, the very excellent quality of the water, which those who have not the pleasure of using can see from the analysis given below. Second, the great improvement in the general water supply, allowing the slower running of the pumps at the old pumping station, so that more filtered water is supplied than formerly. Third, the increased pressure in the outlying districts of wards Three and Four, where the pressure was low and the fire service in consequence very poor.

As the pumps at this station run all of the time, and as the draught on the pipes throughout the City at night is small, the well water forces its way through the City, so that in the morning a

large portion of our residents can, if they desire, draw pure drinking water for their day's supply.

WATER ANALYSIS.

The water from this plant has been closely watched, and frequent analyses have been made by Thomas O. Allen, and the results obtained by him are given on page 99.

The State Board of Health has made an analysis of the water every month since pumping began. On page 100 is a copy of the record received from them.

During the Tube Well operations, George A. Nelson has served as assistant-in-charge of the construction of the force main, engine-house, pump and boiler foundations; W. F. Sullivan has been assistant-in-charge of engineering required by the contractor, inspector of material, and has had charge of all records of wells, both the wells in the plant and the outside test wells; also the collection of samples of the different kinds of material found in sinking the wells.

In closing this report I wish to say, that in all my dealings with Mr. Cook and his Superintendent, Mr. May, I have found their work up to the contract and in no case have I seen any disposition to furnish poor materials or to slight the work.

Respectfully submitted,

GEORGE BOWERS,

City Engineer.

WATER ANALYSIS.

(PARTS IN 100,000.)

DATE OF Col- lec- tion.	APPEARANCE.			ODOR.		RESIDUE ON EVAPORATION.			AMMONIA.			Chlorine.	Hardness.	REMARKS.
	Turbid- ity.	Sediment.	Color.	Cold.	Hot.	Total.	Loss on Igni- tion.	Fixed.	Free.	Total.	In so- lution.	Aluminoid.	In sus- pension.	
Jan., 1893, 26									.0016	.0020	.....	....	....	Well water.
May, 26										.0002	.....	....	....	Wells at Poor Farm.
June, 16	None.	None.	0.0	0	0	....	....	....	....	.0014	.....	....	....	Wells at Poor Farm, 1 and 2.
17 Sept.									.0014	.0026	.....	....	....	Wells at Poor Farm.
P. M. 19	None.	None.	0.0	None.	None.	....	....	....	None.	.0018	.....	....	....	Wells at Poor Farm.
P. M. 20										.0026	.....	....	....	Wells at Poor Farm.
22										.0018	.....	....	....	Wells at Poor Farm.
22									.0006	.0018	.....	....	....	Wells at Poor Farm.
P. M. 26										.0018	.....	....	....	Wells at Poor Farm.
A. M. 29									.0004	.0014	.....	....	....	Wells at Poor Farm.
Oct. P. M. 25									.0004	.0014	.....	....	....	Wells at Poor Farm.
26										.0055	.....	....	....	River Meadow Brook, at City Farm.
Jan. 26									.0036	.0174	.....	....	....	Tap at Milk Inspector's office.
Oct. 16									.0014	.0018	.....	....	....	Tap at 411 Middlesex St.
20										.0034	.....	....	....	Tap at Milk Inspector's office.
Nov. 8										.0204	.....	....	....	Tap at Milk Inspector's office.

Commonwealth of Massachusetts.—State Board of Health.
WATER ANALYSIS.--SAMPLES FROM THE DRIVEN WELLS.
(PARTS IN 100,000.)

No.	DATE OF		APPEARANCE.			ODOR.		RESIDUE ON EVAPORATION.			AMMONIA.			Chlorine.	NITROGEN AS		Hardness.	Iron.	Oxygen Consumed
	Col-lection.	Ex-amination.	Turbid-ity.	Sediment.	Color.	Cold.	Hot.	Total.	Loss on Igni-tion.	Fixed.	Free.	Albuminoid.							
												Total	In so-lution						
11,046	Sept., 1893.	19 20	None.	None.	0.0	None.	None.	8.00	....	....	.0000	.0008	.....	.46	.1000	.0000	2.7	.0000	.0246
11,208	Oct.	17 18	None.	None.	0.0	None.	None.	7.00	....	....	.0000	.0000	....	.47	.1100	.0001	2.5	.0100	.0243
11,367	Nov.	21 22	None.	None.	0.0	None.	None.	6.90	....	....	.0004	.0000	.....	.47	.0950	.0004	2.7	.0000	.0378
11,522	Dec.	19 20	None.	None.	0.0	None.	None.	7.00	...	....	.0000	.0022	.....	.52	.0900	.0002	2.6	.0000	.0405

The color of water is expressed by numbers which increase with the amount of color. Boston water, as drawn from a tap at the Institute of Technology, had an average color for five years of 0.40. Other water supplies in the State have an average color of from 0 to 1.45.

All water containing suspended matter is filtered through filter paper before determining the color and residue on evaporation. Occasionally these determinations are also made on the unfiltered water, the results in such cases being indicated by an asterisk.

ANNUAL REPORT

OF THE

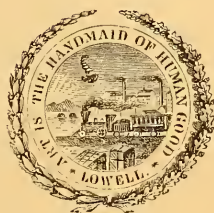
OVERSEERS OF THE POOR,

WITH ACCOMPANYING PAPERS,

OF THE

CITY OF LOWELL,

FOR THE YEAR 1893.



LOWELL, MASS. :

CAMPBELL & HANSCOM, PRINTERS,

1894.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, January 12, 1894.

Received and ordered on file. Sent down for concurrence.

MICHAEL J. DOWD,
City Clerk.

IN COMMON COUNCIL, Jan. 23, 1894.

Received and ordered on file in concurrence.

FRANK J. SIMONDS,
Clerk.

REPORT OF THE SECRETARY

OF THE

OVERSEERS OF THE POOR.

LOWELL, Dec. 30, 1893.

To the Board of Overseers of the Poor:—

GENTLEMEN:—I have the honor to submit the following as the Annual Report of the Secretary, for the year 1893.

TEMPORARY AID.

Temporary aid, consisting of wood, coal, provisions and orders, has been granted to 634 families, comprising 2107 persons, 941 males and 1166 females. Of this number 555 were state paupers and 149 were paupers of other cities and towns, leaving 1403 persons aided who have a settlement in Lowell.

The value of above aid was \$7,926.52. Of this amount \$1,213.59 was reimbursed by the commonwealth and cities and towns, leaving \$6,712.93 as the amount expended for our own poor as partial support at their homes.

In addition to above the sum of \$1,627.23 has been paid as cash allowances. Reimbursed \$110.00, making a

total of \$8,230.16 expended for paupers of Lowell under this head.

SOLDIERS' RELIEF.

The number of veterans, their widows and minor children assisted in cash, orders and medicines under chapter 447, Acts of 1890, was 100; 73 had a settlement in Lowell, 27 in other cities and towns. Total value of above was \$1,847.86, reimbursed \$252.20, leaving \$1,595.66 as the amount allowed to Lowell cases.

In this connection I would call your attention to the above chapter, which provides for the manner in which above aid shall be granted, *i. e.*, by special appropriation by the city council, to be disbursed by the mayor and aldermen; not by the pauper department.

HOSPITALS.

The number at the hospitals during the year, for whose board and care this department was responsible, was: at St. John's Hospital, 242, at Lowell Hospital, 3, total, 245. Of this number 149 were state paupers, and chargeable to cities and towns, and 96 had a settlement in Lowell. Total amount paid for above was \$5,034.61. Reimbursed \$2,077.96, leaving \$2,956.65 as net expense to the city.

INSANE.

Seventy-two persons were cared for at the state lunatic hospitals at the expense of this city. Of this number 24 have been cured, died or been transferred to our institution, leaving 48 now at the hospitals on expense to

the city. Amount paid for care of above, \$8,846.21. Reimbursed by relatives \$1,012.49, leaving net expense to the city of \$7,833.72.

STATE PAUPERS.

One hundred and seventy-seven paupers were sent to the State Almshouse at Tewksbury, during the year. The same number as in 1892.

BURIALS.

One hundred and ninety-two orders for burial of deceased paupers were given by this department. An increase of 13 over the year 1892.

AMBULANCE.

Seven hundred and twenty-six calls were made with the ambulance, divided as follows: sick 442, accident 224, not used 60. An increase of 78 over the year 1892.

WOOD YARD.

Owing to the death of Michael Sexton, Superintendent at the wood yard, which occurred on December 29th, I am unable to furnish the amount of coal and wood used during the year.

DISPENSARY.

The dispensary in new city hall, under the management of the six Ward Physicians (as provided by the new ordinance) and the services of Mr. John F. Boyle, the genial and efficient clerk, appears to be a model institution, a great improvement over the old system.

The dispensary committee have kindly allowed the Board of Health to use the rooms each afternoon for the purpose of vaccination, which must be appreciated, as the rooms of the Board of Health are inadequate for such service.

Respectfully submitted,

CHAS. H. RICHARDSON,
Secretary.

December 30, 1893.

In meeting on above date the Board of Overseers "Ordered, that the Reports of the Secretary, the Superintendent of City Institutions, and Chaplain be transmitted to the City Council, as their report for the year 1893."

ATTEST,

CHAS. H. RICHARDSON,
Secretary.

REPORT OF INSTITUTIONS

AT

CITY FARM, LOWELL.

FOR THE YEAR 1893.

SUPERINTENDENT'S REPORT.

OFFICE OF THE SUPERINTENDENT, }
CITY FARM, LOWELL, Dec. 20, 1893. }

To the Board of Overseers of the Poor:

GENTLEMEN:—I have the honor to submit the Annual Report of the Superintendent of the Institutions at City Farm, for the year ending Dec. 20, 1893.

I deem it necessary to make a few remarks in regard to improvements which have been made during the last year, and to suggest some to add to the comfort of the inmates.

Two new hospitals which were in process of erection when I took charge, under my supervision, have been finished and were ready for occupancy the first week of July. A considerable amount of money was expended in fitting them up, all the windows have been supplied with curtains, which adds to both looks and comfort. The iron bedsteads have been painted white, making a more cheerful appearance. Bath and clothes rooms were added to each floor, a new floor was laid in the nursery, and the water tank underneath was removed as it created a great deal of dampness, and steam has been introduced into all the bath rooms. In the wash kitchen the purchase of a new washing machine was found necessary, and a new drying shed, capable of holding three times the number of pieces as the former, was erected. The boiler room

has been entirely renovated and another shed built there which will hold two hundred tons of coal. The high board fence which was in the women's yard was removed, making more space and allowing much more light for the buildings.

I would recommend the taking down of the old hospital and erecting in its place a two story building, the lower floor of which could be used as a dining room for the men, and the upper as a recreation room. Their present quarters in the basement are unfit for them, and again, the number is so large they are overerowed.

The old fire escapes have been taken down and more modern ones have been erected on all the buildings. The hose was inspected by the Chief of the Fire Department and condemned, so new hose was put in its place, thus leaving everything in good condition in case of fire.

The greatest care has been taken in regard to the sanitary condition of the place, and extreme cleanliness prevails in every portion of the buildings.

Owing to the extremely hard times the number cared for in the Institution far exceeds that of any previous year. The number cared for in the Reform School varies but little from previous years. The boys have no connection with any other part of the Institution, and on the whole are very well behaved. During the summer months they work around the farm, picking weeds and helping in any light work, when needed. A considerable number are from adjoining towns, whose sentencees vary from six months to two years.

For statistics, see Teacher's Report.

The work on the farm this season has, on the whole, resulted very profitably, considering the lateness of the

spring and the severe drought which prevailed during the summer. The hay crop was very large, the potato crop on the high lands was a failure, but that on the low lands turned out very well. There was a fair yield of all other vegetables.

The value of the grain and vegetables harvested was nine thousand two hundred and sixty-five dollars (\$9,265) and the amount received from sales of farm products was three thousand one hundred and thirty-one dollars and forty-one cents (\$3,131.41).

In conclusion, I extend my sincere thanks to the members of the Board for the courtesies extended me during the year.

Respectfully submitted,

CORNELIUS E. COLLINS,

Superintendent of City Institutions.

STATISTICAL REPORT.

ALMSHOUSE.

	Males.	Females	Total.
Remaining Dec. 20, 1892.....	122	170	292
Admitted to Dec. 20, 1893.....	252	253	505
Whole Number for year	...	...	797
Discharged during the year.....	260	240	500
Average for the year	...	...	291
Number remaining Dec. 20, 1893.....	...	...	297
Births for the year.....	6	5	11
Deaths for the year.....	...	...	84

INSANE.

	Males.	Females.	Total.
Remaining Dec. 20, 1892.....	30	64	94
Admitted to Dec. 20, 1893.....	24	31	55
Whole number for year.....	54	95	149
Discharged during the year.....	23	25	48
Remaining Dec. 20, 1893.....	31	71	102

SCHOOL.

	Males.	Females.	Total.
Remaining Dec. 20, 1892.....	..	..	45
Committed to Dec. 20, 1893.....	..	..	61
Whole number for year.....	..	..	106
Remaining Dec. 20, 1893.....	..	..	41
Average for the year.....	..	..	41

WORKHOUSE.

	Males.	Females.	Total.
Number remaining Dec. 20, 1892	...	...	109
Committed to Dec. 20, 1893.....	252	155	407
Discharged during year.....	217	143	360
Remaining Dec. 20, 1893.....	98	58	156
Average for the year.....	...	...	118
Whole number for the year.....	...	...	516

OFFENCES FOR WHICH COMMITTED TO WORKHOUSE.

	Males.	Females.	Total.
Drunkenness.....	..	..	389
Vagrants	..	..	1
Larceny	..	..	4
Assault and Battery	..	..	2
Common Drunkards	..	..	11
Total	..	..	407
Total number for the year, in all departments.....	..	..	1,419

EXPENDITURES.

Average number supported at Almshouse.....	291
Average number supported at Workhouse	118
Average number supported at School.....	41
Total average	450
Number whose board was paid.....	28
Net average	422
Amount of bills paid for all expenditures.....	\$47,282.32
Credits for the year.....	14,665.63
Net expense.....	\$32,616.69
Yearly cost, per inmate.....	77.29
Weekly cost, per inmate	1.49

THE FOLLOWING TABLE SHOWS THE ADMISSIONS EACH MONTH.

MONTHS.	PAUPERS.		PRISONERS.		INSANE.		SCHOOL.
	Females	Males	Females	Males	Females	Males	Males.
January	33	36	10	16	2	3	5
February ...	16	14	4	3	..	..	2
March	16	22	7	9	1	2	1
April.....	19	21	9	13	1	1	5
May.....	21	20	17	24	3	1	7
June	32	17	13	24	5	3	6
July	18	22	10	15	4	1	1
August	23	27	20	42	7	7	4
September ..	19	10	23	52	2	1	2
October.....	18	19	23	37	4	2	11
November ..	22	27	8	28	1	1	16
December...	16	17	11	17	1	2	1
Total.....	253	252	155	281	31	24	61

REPORT OF
TEACHER AND CHAPLAIN
OF
INSTITUTIONS, CITY FARM,
1893.

TEACHER'S REPORT.

Gentlemen of the Board of Overseers of the Poor and of Institutions at the City Farm:—

I desire to present the following statement of our school work for the current year:—

Whole number of pupils instructed	172
Pupils attending school Jan. 1, 1892	74
Males under sentence	45
Females under sentence.....	1
Males not under sentence.....	15
Females not under sentence.....	8
Average monthly attendance	61
Average age under sentence (years).....	11 $\frac{7}{8}$
Average age not under sentence (years)	9 $\frac{3}{4}$
Highest number for any one month (January).....	74
Lowest number for any one month (July)	49
Admitted on sentence	60
Males.....	60
Females.....	0
Discharged by expiration of sentence	49
Probation	0
Pardoned.....	17
Number remaining sentenced.....	39
Whole number attending school at present time.....	64
Males under sentence	39
Males not under sentence.....	13
Females not under sentence.....	12

NAMES OF CITIES AND TOWNS, (TAKEN FROM LAST REPORT) THAT
HAVE MADE ARRANGEMENTS WITH THE OVERSEERS OF
THE POOR TO SEND JUVENILE OFFENDERS
TO THIS SCHOOL.

Lowell.....	39
Arlington	0
Ayer	0
Chelsea	5
Clinton.....	0
Cambridge	7
Everett	0
Fitchburg	0
Lincoln	0
Medford	0
Marlboro	0
Malden	0
Stoneham	0
Somerville	7
Waltham.....	1
Winchester.....	0
Wakefield.....	0
Woburn.....	0
Wilmington	0
Watertown	0
Melrose.....	1
Total.....	60
Total from Lowell.....	39
Total from other places.....	21
	60

FOR WHAT CAUSE COMMITTED.

Truancy.....	40
Larceny	9
<i>Carried forward</i>	49

REPORT OF THE TEACHER.	19
------------------------	----

<i>Brought forward</i>	49
Vagrancy	3
Breaking and entering	5
Neglected children	2
Stubborn child	1
	60

NUMBER OF TIMES COMMITTED.

For the first time	42
For the second time	11
For the third time	4
For the fourth time	3
	60

BIRTHPLACE OF THOSE UNDER SENTENCE.

United States	47
Ireland	7
England	2
Canada	3
Portugal	1
	60

ORPHAN CHILDREN.

Both parents dead	4
Father dead	12
Mother dead	6

The school is classified as follows : —

DEVOTIONAL EXERCISES.

Morning Prayers.

WORCESTER'S SPELLER.

First Class	8
Second Class	16
Third Class	12

READING.

Franklin Fifth Reader.....	9
New Franklin Fourth Reader.....	10
New Franklin Third Reader	7

HISTORICAL READING.

Higginson's History of the United States.....	9
Childs' History of the United States.....	27

ARITHMETIC.

Bradbury's-Eaton's Arithmetic (two classes).....	24
Thompson's Intellectual Arithmetic (three classes).....	36

GEOGRAPHY.

Swinton's (three classes)	36
Drawing (one class).....	24
Writing (one class).....	42
Grammar (one class).....	18

The above classes are made up of the older pupils and are taught by myself; besides these are the following classes of a more elementary kind which are under the direct charge of my assistant, A. F. FECTEAU, JR. : —

READING.

Franklin Third Reader	4
Franklin Second Reader.....	8
Franklin First Reader.....	9
Franklin Primer	1
Munroe Chart	11
Geography	5
Arithmetic	17

DIVISION OF THE TWENTY-FOUR HOURS OF THE DAY.

Rise, fall and winter months.....	6 a. m.
Rise, spring and summer months.....	5.30 a. m.

Morning prayer.....	6.15 a. m.
Breakfast, fall and winter	6.30 a. m.
Breakfast, spring and summer.....	6 a. m.
Recess.....	
School.....	8.30 to 11.15 a. m.
Recess.....	
Dinner	12 m.
Recess.....	
School	1.30 to 3.45 p. m.
Recess.....	
Supper, followed by recreation	5.30 p. m.
Evening prayer and hour for retiring	7.15 p. m.

Religious services have been held regularly during the year.

The boys have shown a good degree of interest in their studies and their progress has been greater than one would at first expect.

The health of the pupils has been uniformly good; the one serious illness being that of John Cassidy, who spent two months at the hospital under treatment for a chronic, scrofulous eruption. When he was discharged, however, at the expiration of his sentence, September 28th, his condition had vastly improved.

To the members of the Board of Overseers, I desire to offer my earnest thanks for the many courtesies they have shown me; and speaking on behalf of the boys, whose feeling in this matter is my own, I wish to assure the Superintendent and his wife, that their countless kindly and generous acts through the year have been fully appreciated.

Respectfully submitted,

JAMES J. QUINN,

Teacher and Chaplain.



ANNUAL REPORT

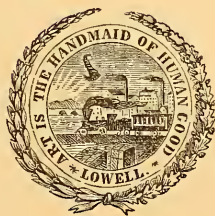
OF THE

Births, Marriages and Deaths

OF THE

CITY OF LOWELL,

FOR THE YEAR 1893.



LOWELL, MASS.

PRESS OF THE MORNING MAIL CORPORATION.

1894.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, April 3, 1894.

Received and ordered on file; sent down for concurrence.

MICHAEL J. DOWD, *City Clerk*.

IN COMMON COUNCIL, April 10, 1894.

Received and ordered on file, in concurrence.

FRANK J. SIMONDS, *Clerk*.

REPORT OF THE CITY CLERK.

CITY OF LOWELL,
CITY CLERK'S OFFICE, March 31, 1894. }

To the City Council:—

GENTLEMEN—I have the honor to present the Annual Report of Births, Marriages and Deaths, for the City of Lowell, for the year 1893.

BIRTHS.

The total number of births returned and recorded for the year 1893 was 2,688; males, 1,382; females, 1,306; a decrease from the number recorded for the year 1892, of 53; a decrease of 40 in the number of males, and of 13 in the number of females. Of the entire number returned and recorded, 127 were born elsewhere than in Lowell, but were found by our enumerators and returned according to law. There were also returned by the clerks of various towns and cities the names of 16 children born in Lowell, but who were found by their canvassers.

Number of Births, Parentage, etc., by Wards.

WARDS.	One.	Two.	Three.	Four.	Five.	Six.	Total.
Whole number	359	419	551	289	754	316	2688
Males	193	205	299	162	369	154	1382
Females	166	214	252	127	385	162	1306
American parents	28	81	117	56	77	58	417
Foreign parents	283	253	319	187	575	193	1810
American father and Foreign mother	30	47	57	22	45	36	237
Foreign father and American mother	15	37	47	23	55	28	205
Parents nationality unknown	3	1	11	1	2	1	19
Twins	2	7	11	1	7	5	33
Illegitimate	5	0	14	0	1	1	21
Colored	0	0	0	0	0	1	1

Of the illegitimate children credited to Ward Three, 11 were born at the City Farm.

MARRIAGES.

Ten hundred and eighteen intentions of marriage were recorded and certificates issued in 1893, an increase of 17 over the figures of 1892.

The total number of marriages returned and recorded for the year 1893 was 1,020, an increase of 23 over the figures for 1892. Of this number 955 were solemnized in Lowell, and 65 elsewhere.

Total number of marriages in each month in 1893:

January,	102	May,	81	September,	87
February,	81	June,	113	October,	84
March,	36	July,	71	November,	104
April,	115	August,	85	December,	61

Oldest couple married, 73-62; youngest couple married, 18-15; oldest person married, 73; youngest person married, 15; grooms under 21, 57; brides under 18, 34.

Nationality of contracting parties:

	Grooms.	Brides.
United States	424	387
Canada	266	269
Ireland	149	171
England	63	68
British Provinces	47	64
Scotland	22	23
Sweden	13	14
Other countries	34	26

DEATHS.

The total number of deaths recorded in the year 1893 was 2,108, a decrease from the number recorded in 1892 of 120.

Total number of males, 1,012, a decrease of 84.

Total number of females, 1,096, a decrease of 36.

Number died between 80 and 90 years of age, 70.

Number died over 90 years of age, 12.

Oldest person died, 98.

For further information relative to deaths, see report of the Board of Health.

Copies of the record of births, marriages and deaths have been sent to the Secretary of the Commonwealth, as required by law.

MICHAEL J. DOWD,

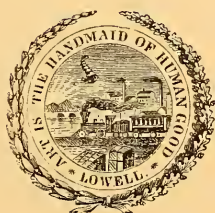
City Clerk.

SIXTEENTH
ANNUAL REPORT

OF THE
BOARD OF HEALTH.

OF THE
CITY OF LOWELL,

FOR THE YEAR 1893.



LOWELL, MASS.:
CAMPBELL & HANSCOM, PRINTERS,
1894.

CITY OF LOWELL.

IN BOARD OF ALDERMEN.

Received and ordered on file. Sent down for concurrence.

MICHAEL J. DOWD,
City Clerk.

IN COMMON COUNCIL, March 13, 1894.

Received and ordered on file in concurrence.

FRANK J. SIMONDS,
Clerk.

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BOARD OF HEALTH.

1893.

JAMES B. FIELD, M. D., *Chairman.*

JAMES BAYLES, *Secretary.*

WM. P. LAWLER, M. D., *City Physician.*

HEALTH DEPARTMENT OFFICERS.

H. H. KNAPP, *Agent.*

F. A. BATES, *Chief Inspector.*

STEPHEN GARRITY, *Inspector of Plumbing.*

WINFIELD WEBSTER, }
FRANCIS J. O'HARE, } *General Inspectors.*

LULU F. LYON, *Registrar.*

REPORT.

LOWELL, MASS., JAN. 30, 1894.

To the Honorable Mayor and City Council of the City of Lowell: Gentlemen:—

The Board of Health respectfully submits its sixteenth annual report, covering the operations of the Health Department for the past year, together with a statement of the receipts and expenditures of the department from Jan. 1, 1893, to Jan. 1, 1894.

MEMBERSHIP AND ORGANIZATION.

In January, 1893, Mayor Pickman appointed James Bayles as a member of the Board of Health, and the nomination being confirmed by the Board of Aldermen, the membership as organized on the first Monday in February consisted of Dr. James B. Field, chairman; James Bayles, secretary; Dr. Wm. P. Lawler, city physician; Horace H. Knapp, agent.

VAULT CLEANING.

Permits were issued during the year 1893 for the cleaning of privy vaults to

Fred A. Fox	.	.	.	.	.	632
Thomas F. Fay	.	.	.	.	.	695
Total number cleaned	.	.	.	.	.	1327

This work has been done in the same way and by the same parties as for the last five years. The board is willing to concede that both contractors have done what they could to allay complaint, and what has come to the notice of the department has been of a general character based upon the shabby and decrepit condition of the paraphernalia employed in the conveyance of the filth from Lowell to Dracut.

To a veteran of the Army of the Potomac, the entire odorless outfit is a reminder of the spring of 1865, when the Army of Northern Virginia was gasping in its death throes. What was left of the once formidable artillery, was taken from field to field by horses that were gaunt from hunger, and tied to the cannon and caissons with leather; ropes and straw bands, literally a harness of shreds and patches, never before and only since equalled by the outfit controlled by the parties that drive daily through the streets of Lowell, with an artillery that is more offensive, if not as dangerous as were the Confederate batteries.

The board is aware that it is very difficult to keep the process at all times inviting and fragrant, but it thinks it can be improved, and with that belief in view it investigated a process that is in operation at Springfield and Cambridge, Mass.

The investigation resulted in the following proposition :

BOSTON, MARCH 15, 1893.

To the Honorable Board of Health, Lowell, Mass:—

GENTLEMEN :—

The Eastern Fertilizer Company hereby begs leave to submit a bid for an exclusive license to clean the vaults and cesspools of Lowell for a period of three years upon the following conditions :

1. The operations of the company shall be in strict accordance with the rules of your board.

2. The company shall pay to your board an annual license fee of \$250 payable in advance.

3. The company shall charge for its work the rates now allowed by your board.

4. The location of the company's buildings at Lowell shall be approved by your board.

5. In cleaning vaults or cesspools this company shall first throw in and mix with the contents thereof sufficient of its marl deodorant to completely deodorize the nightsoil so that no odor whatever shall arise. The contents shall then be spaded or pumped into hermetically sealed barrels or tanks and carted to the company's works without the slightest offense or odor. At the works the nightsoil shall be mixed with more marl, dried, placed in sacks or barrels and then be shipped away from Lowell by rail.

The company shall use new odorless excavating apparatus of the most improved make and at all times keep a sufficient number of teams on hand to clean any vault or cesspool within forty-eight hours from the time of receiving the order. There shall at no time be the slightest odor of any sort arising from the nightsoil either at the works or at the vault while the company is at work.

The company further agrees to supply those whose vaults they clean with sufficient quantities of marl deodorant to drop in the vault from day to day to keep the premises always free from odor at the rate of fifty cents per hundred weight delivered to all who desire it.

6. The company agrees to give your board a substantial bond in such sum as your board may require for the exact performance of the above conditions.

We are prepared to make any exhibition of our processes your board may require.

Yours respectfully,

EASTERN FERTILIZER COMPANY,

By Edward Records, General Manager.

Knowing the persistent and tireless opposition that the above proposition would encounter from the parties who now derive a large income from the business, and having but little faith that the Board of Aldermen would examine

or vote for any improved process, the fertilizer people were advised to simply put in a request for a license to clean vaults and let the citizens of Lowell determine to which of the three contractors they would give their work, and if, as we had every reason to believe, it would be done cleaner, better and cheaper, they would soon do most of the business, and then the board would be sustained in giving them the entire control of the city. They therefore sent to the aldermen a petition for a license to open and clean vaults, but that body was so busy in trying to suppress a phantom nuisance at the crematory, that it did not find time during the year 1893 to aid in substituting a clean and healthy process, for a careless, filthy and disease-breeding nuisance.

VAULTS DISCONTINUED AND FILLED WITH EARTH BY ORDER
OF THE BOARD OF HEALTH DURING 1893.

9 and 11 Mead street	Ward 3.....	1
19 Floyd street.....	" 3.....	1
43 and 45 Crosby street.....	" 3.....	1
509 and 511 Middlesex street....	" 4.....	1
110 and 112 Jewett street.....	" 2.....	1
70 and 72 Hampshire street.....	" 2.....	1
208 Moody street.....	" 5.....	1
Perkins, corner Cheever street	" 5.....	1
25 Smith street.....	" 4.....	1
41 Salem street.....	" 5.....	1
264 Nesmith street.....	" 6.....	1
87 and 89 Chapel street.....	" 3.....	1
88 Chapel street.....	" 3.....	1
76 " "	" 3.....	1
42 " "	" 3.....	1
41 " "	" 3.....	1
39 " "	" 3.....	1
29 (rear) Chapel street.....	" 3.....	1
26 Chapel street.....	" 3.....	1

BOARD OF HEALTH

9

21 Chapel street.....	Ward 3.....	1
133 Pine street.....	" 4.....	1
172 Hale street.....	" 3.....	1
56 Fayette street.....	" 6.....	1
106 " "	" 6.....	1
5 Bachelder's place	" 5.....	1
23 Cady street.....	" 6.....	1
13 " "	" 6.....	1
21 " "	" 6.....	1
74 Lawrence street.....	" 6.....	1
78 " "	" 6.....	1
203 and 205 Fletcher street.....	" 5.....	1
185 and 187 " "	" 5.....	1
26 and 28 Lagrange street	" 5.....	1
20 Cady street.....	" 6.....	1
22 " "	" 6.....	1
67 Lawrence street.....	" 6.....	1
5 Cedar court	" 3.....	1
8 " "	" 3.....	1
244 (rear) Gorham street.....	" 3.....	1
220 and 222 " "	" 3.....	2
218 Gorham street.....	" 3.....	1
216 " "	" 3.....	1
212 and 214 Gorham street.....	" 3.....	2
41 Cedar street.....	" 3.....	1
13 " "	" 3.....	1
31 " "	" 3.....	1
25 " "	" 3.....	1
15 " "	" 3.....	1
13 " "	" 3.....	1
11 " "	" 3.....	1
2 Loring street	" 4.....	1
9 and 13 Green street.....	" 6.....	1
317 Central street.....	" 3.....	1
193 and 195 Fletcher street.....	" 5.....	1
320 and 322 Gorham street.....	" 3.....	1
234, 236, 238, 240 Gorham street..	" 3.....	1
45, 47 and 49 Cedar street.....	" 3.....	1
162 Pawtucket street.....	" 5.....	1
170 Middlesex street.....	" 4.....	1

90 East Merrimack street.....	Ward 6.....	1
161 and 163 Lawrence street.....	" 6.....	1
37 Cedar street.....	" 3.....	1
33 Fort Hill avenue.....	" 6.....	1
31 " "	" 6.....	1
2 Varney street.....	" 5.....	1
158 Fletcher street.....	" 5.....	1
12 and 14 Willie avenue.....	" 5.....	1
1 Hancock avenue	" 5.....	1
3 " "	" 5.....	1
82 Common street.....	" 5.....	1
76 " "	" 5.....	1
49 " "	" 5.....	1
47 " "	" 5.....	1
51 and 53 Common street.....	" 5.....	1
118 School street	" 5.....	1
208 " "	" 5.....	1
210 Westford street.....	" 4.....	1
44 and 46 Walnut street.....	" 3.....	3
130 Pawtucket street.....	" 5.....	1
24 Liberty street.....	" 4.....	1
94 East Merrimack street.....	" 6.....	1
136 Pawtucket street.....	" 5.....	1
74 Common street	" 5.....	1
9 and 11 Ames street.....	" 3.....	1
244 Market street.....	" 1.....	1
242 " "	" 1.....	1
240 " "	" 1.....	1
238 " "	" 1.....	1
236 " "	" 1.....	1
228 " "	" 1.....	1
208 and 210 Market street.....	" 1.....	1
162 and 168 " "	" 1.....	1
39 Hampshire street.....	" 2.....	1
18 and 20 Second street	" 2.....	1
7 Third street.....	" 2.....	1
35 " "	" 2.....	1
53 " "	" 2.....	1
56 " "	" 2.....	1
52 " "	" 2.....	1

BOARD OF HEALTH

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48 Third street.....	Ward 2.....	1
110 " "	" 2.....	1
1 West Ninth street.....	" 2.....	1
234 Moody street.....	" 1.....	1
58 and 60 Lewis street.....	" 1.....	1
15 and 17 Little street.....	" 1.....	1
54 and 56 Lewis street.....	" 1.....	2

 111

Ward 1.....	13
" 2.....	12
" 3.....	38
" 4.....	7
" 5.....	24
" 6.....	17

 Total number of vaults removed in 1893. 111

PRIVY VAULTS ORDERED TO CONFORM TO THE REQUIREMENTS
OF CITY ORDINANCE BY CHANGE FROM WOOD TO BRICK
AND CEMENT, IN STREETS WHERE THERE WERE
NO SEWERS.

Nelson avenue.....	4
Stromquist avenue.....	9
Corbett street.....	12
Cosgrove street.....	9
Bowden street	2
Total number changed.....	36

ASHES.

During the year 1893 twenty-five thousand five hundred and thirty-seven (25,537) loads of ashes were removed from houses and stores to the various dumping grounds in use.

January	2,627
February	2,142
March.....	2,529
April.....	2,550

May	2,306
June	1,927
July	1,648
August	1,521
September	1,626
October	1,930
November	2,124
December	2,607
	25,537

A WARD TWO SMELL.

The residents of Centralville were obliged to suffer during the early summer from a sickening atmosphere caused by gases coming from a part of the Aiken Street Dump, that in some way had become ignited twenty feet from the surface. It took a few days to locate the trouble and then as large a force of employes of the department as could work to advantage in the somewhat restricted area of the fire, were put to work in removing the gas house refuse which seemed to cover the burning locality. It was a slow and nasty undertaking, as the nearer the workmen got to the fire the more sickening and deadly became the odor, while the heat was almost unbearable.

Against the illnatured pressure of some papers and individuals the board continued, refusing to call to its aid the fire department to drown the fire out, because it believed such aid would only extend the nuisance instead of abating it, and the board was finally rewarded after hundreds of tons had been overturned, in reaching and tearing out the combustible material.

The board desires to express its appreciation of the interest taken by the Mayor, and the counsel given by Col. Francis and Professor Whitaker, towards the accom-

plishment of the remedy in the quickest possible time with the least expense.

DISPOSAL OF SWILL AND GARBAGE:

Late in the year 1892 the Engle cremator was completed, so that for the year covered by this report it has been in use, destroying about one-half of the garbage of the city.

Owing to the usual friction that all new undertakings have to overcome, it was not until April that a complete system of account was commenced. Since April every pound of swill consumed and every pound of coal used has been weighed daily so that estimating the amount burned the first three months of the year and adding it to the amount weighed for the last nine months, we have, say 3,500 tons of swill consumed for the year 1893, besides the miscellaneous articles enumerated in the table printed herewith.

A determined and unreasonable opposition to the cremator, from the same people that asked the superior court to grant an injunction last year, culminated in a resolution presented to the city council by ex-Alderman Puffer, for the removal or discontinuance of the plant. The board waived the question of their rights under the statutes and the chairman and agent appeared before the board of aldermen at the time and place designated.

The complaints seemed to come from some few property holders in Ayer city who had worked themselves into the belief that their property had been injured by the location selected for the furnace.

It was a little suspicious that up to the time the investigation was sprung, not a single complaint had ever

reached the office of the board, and the furnace had then been running full for six months. The result of the hearing emphasized the following objections:

- 1st. An odor from the process.
- 2nd. Teams conveying swill passing houses.
- 3rd. Should be in some other ward.
- 4th. Danger from sparks coming from chimney.
- 5th. Excessive cost of cremator.
- 6th. Opinions that swill should be sold and not burned.

As the result of daily visits to the cremator, the board is of the opinion that no offensive odors can be detected from the process of combustion, as the smell, if any, is consumed by passing over a second fire. That there were some unpleasant smells at one time in the early summer, it knows, but they arose from causes that had nothing to do with the burning of garbage.

During some of the busiest days, the paper brought from the city caused some delay in burning the swill, as it left a thick layer of ash and charred substance on top of garbage. As an experiment, some loads of paper were piled in rear of the cremator and fired, but when it was found that on damp, sultry nights the smudge from the heaps of half-burned refuse was held in suspense but a few feet from the fires and made an unpleasant smell, the burning was stopped at once.

There was also, to some, an unpleasant smell coming from the tank and barrels of oil which also, as an experiment, were used for some time. Oil was discontinued partly to appease and satisfy the objectors, and partly to reduce the chances of danger from sparks issuing from the chimney caused by the oil blower.

In order to still further prevent any possible odor, the washing of the carts after unloading was stopped, the

drain closed, and at a very great expense all the water that should be run off is thrown into the fires of the furnace.

The board believes that a sewer, with some provision for pressing the swill, passing the water into the sewer and the residue into the furnace would reduce the cost of maintaining the cremator at least fifty per cent.

Early Sunday morning, September 4th, what was undoubtedly an incendiary fire destroyed the woodwork of the crematory, as the fire was found to have been set beneath the platform on which the garbage wagons are backed from Plain street into the building. The fires in the furnace had been put out at 4.30 P. M. Saturday. A contract to rebuild was made Monday morning, and the building was rebuilt the next Saturday night at a cost of five hundred dollars (\$500).

Since the above date (Sept. 4th) the entire oil plant has been removed and coal is now used in both furnaces.

The opinion of the board, after the experience of the year with the Engle cremator is briefly this: Under no circumstances would it be willing to return to the old method of swill-house distribution to farmers, and it is also convinced that cremation of the garbage is more satisfactory to the inhabitants of a city than the rendering process, based upon the results of such process in Buffalo, N. Y., Providence, R. I., Washington, D. C., Cincinnati, Ohio, and St. Louis, Mo.

The cost of burning is not satisfactory, but it is largely due to the new driven wells of the city, very close to the site of the cremator, and the desire on the part of the board to prevent even a sentimental belief

that in any way there is a possibility of contamination to the new supply from drainage.

The board knowing the magnitude and importance of the problem of garbage disposal, giving to it time and study, believes it is as competent a tribunal to satisfactorily reach a wise conclusion, as any committee of citizens or officials who discuss the question from selfish and interested motives.

In order that the public may have all figures that may help them to right conclusions, the following tables are given, as a result of a system of careful weighing. The board endorses them as being free from all guess work and as furnishing reliable data for future action either towards enlarging the present system or adopting any other.

COST OF BURNING GARBAGE AT CREMATOR.

Week ending April 8, 1893,	99,660 lbs.	50 tons at \$2.75 per ton.
" " " 15, "	118,427 "	59 " " 1.93 " "
" " " 22, "	119,803 "	60 " " 1.94 " "
" " " 29, "	121,991 "	61 " " 1.89 " "
" " May 6, "	130,359 "	65 " " 1.89 " "
" " " 13, "	132,855 "	66 " " 1.73 " "
" " " 20, "	146,117 "	73 " " 1.67 " "
" " " 27, "	130,371 "	65 " " 1.65 " "
" " June 3, "	139,151 "	69 " " 1.52 " "
" " " 10, "	146,563 "	73 " " 1.45 " "
" " " 17, " (5 days)	123,428 "	62 " " 1.54 " "
" " " 24, "	164,753 "	82 " " 1.19 " "
" " July 1, "	163,318 "	81 " " 1.29 " "
" " " 8, "	170,802 "	85 " " 1.30 " "
" " " 15, "	182,325 "	92 " " 1.38 " "
" " " 22, "	180,392 "	90 " " 1.32 " "
" " " 29, "	250,912 "	125 " " 1.15 " "
" " Aug. 5, "	197,924 "	99 " " 1.18 " "
" " " 12, " (2 days)	72,212 "	36 " " 1.35 " "
" " " 19, " (closed)		
" " " 26, "	232,709 "	116 " " 1.57 " "
" " Sept. 2, "	179,139 "	90 " " 1.87 " "
" " " 9, "	148,683 "	74 " " 1.52 " "

Week ending Sept. 16, 1893,	165,980 lbs.	83 tons at \$1.47 per ton.
" " " 23, "	152,806 "	76 " " 1.52 " "
" " " 30, "	190,458 "	95 " " 1.29 " "
" " Oct. 7, "	180,557 "	90 " " 1.24 " "
" " " 14, "	184,335 "	92 " " 1.23 " "
" " " 21, "	172,033 "	86 " " 1.31 " "
" " " 28, "	166,963 "	83 " " 1.24 " "
" " Nov. 4, "	145,955 "	73 " " 1.35 " "
" " " 11, "	132,196 "	66 " " 1.29 " "
" " " 18, "	120,827 "	60 " " 1.37 " "
" " " 24, "	108,984 "	54 " " 1.41 " "
" " Dec. 2, "	127,983 "	64 " " 1.35 " "
" " " 9, "	135,535 "	68 " " 1.24 " "
" " " 16, "	118,205 "	59 " " 1.27 " "
" " " 23, "	119,744 "	60 " " 1.25 " "
" " " 30, "	134,577 "	67 " " 1.19 " "

 3,500

Three thousand five hundred tons swill and market refuse burned.

Four horses.

Seventy cats.

Sixty-three dogs.

Two-hundred and fifteen mattresses.

Four hens.

Seven rabbits.

One raccoon.

Seven loads infected clothing, diphtheria.

Three loads and 1 bbl., infected clothing, small pox.

Seventy-seven thousand one hundred and sixteen lbs. paper burned on ground in rear of cremator.

LARGEST WEEK.

Monday, July 24.....	25,654	swill.
" " 24.....	8,600	markets.
" " 24.....	5,865	paper.
Tuesday, July 25.....	27,107	swill.
" " 25.....	3,900	markets.
" " 25.....	12,000	Hood's refuse.
" " 25.....	4,900	paper.
Wednesday, July 26.....	27,839	swill.
" " 26.....	24,000	markets.
" " 26.....	4,000	Hood's refuse.
" " 26.....	2,600	paper.
Thursday, July 27.....	22,622	swill.
" " 27.....	6,100	markets.

Friday, July 28.....	22,720	swill.
" " 28.....	12,000	markets.
Saturday, July 29.....	20,310	swill.
" " 29.....	17,400	markets.
" " 29.....	3,295	paper.

250,912 lbs.=125 tons.

Four cats, four dogs, eleven mattresses, one bag infected clothing.

One ton broken coal.....	\$6.10
Ten tons nut coal, at \$4.70.....	47.00
Twenty-three bbls. oil 50 galls. each at 3½c	40.25
Labor, four men, at \$2.....	50.00

\$143.35

One hundred and twenty-five tons swill, market refuse and rubbish burned at \$1.15 per ton.

LAST WEEK IN DECEMBER.

Monday, December 25.....		Christmas.
Tuesday, " 26.....	25,027	swill.
" " 26.....	5,600	markets.
Wednesday, December 27.....	24,920	swill.
" " 27.....	3,050	markets.
Thursday, December 28.....	13,960	swill.
" " 28.....	3,125	markets.
Friday, December 29.....	25,415	swill.
" " 29.....	3,560	markets.
Saturday, December 30.....	25,620	swill.
" " 30.....	4,300	markets.

134,577 lbs.=67 tons.

Five cats, two rabbits, three loads infected clothing (small pox), one mattress.

Eleven tons coal at \$4.70.....	\$51.70
Labor, two men, at \$2 and \$2.25.....	27.75

\$79.45

Sixty-seven tons at \$1.19 per ton.

COST OF BURNING GARBAGE AT ENGLE CREMATOR, JANUARY 1, 1893,
TO DECEMBER 31, 1893.

January.....	\$ 962.00	Coal.....	\$2,394.78
February.....	320.20	Oil.....	1,023.26
March.....	359.18	Labor.....	2,149.20
April.....	660.16	Plumbing.....	297.26
May.....	806.88	Piping.....	99.46
June.....	550.22	Lease (one year)....	150.00
July.....	631.93	Spark arrestor.....	147.66
August.....	831.40	Rebuilding (fire)....	553.95
September.....	1,214.74	Fire brick.....	48.66
October.....	508.14	Carpenters.....	147.10
November.....	475.16	Sundries.....	659.44
December.....	350.76		
			\$7,670.77
	\$7,670.77		

The methods so far devised for the destroying of garbage consist of the reduction or utilization method, and the cremation or burning method.

The reduction or utilization method consists of three different systems known as the Simonin, in use at Providence, R. I., and Cincinnati, Ohio; the Merz, in operation at St. Louis; and the National Garbage Reduction Company, whose plant was in operation at Washington, D. C., until November, 1893, when it was completely destroyed by fire.

The second method is the cremation, or burning of the garbage, and Lowell, Philadelphia, Pittsburg, Alleghany City, Wheeling, Wilmington, Troy, Scranton, and a number of Southern and Western cities have this system in operation.

The Engle is one of the oldest and best known of these furnaces. It is in use here, and a later pattern of the same furnace was in operation at the World's Fair, Chicago,

burning all the garbage of the fair without complaint, and to the satisfaction of the authorities.

The Vivarttus system is in use at Scranton, Pa., a city of about 100,000 inhabitants. Great economy in the use of fuel is claimed for this system. A visit was made to Scranton in September by a member of the board and the plant examined while in operation.

The Dowling system is in operation at Washington Ave., near 15th street, Philadelphia. Oil is the fuel used, and the steam pipe connects with the oil supply pipe near the outlet. The steam sprays the oil, which, when ignited, creates great heat. The plant is operated by the American Incinerating Company of Philadelphia.

The Brown furnace, owned by the American Garbage Cremator of Boston, is erecting plants at Wilmington, Del., and Troy, N. Y. The claims made for this system are a high degree of heat, quick and complete combustion, and a furnace so constructed that it is capable of sustaining extreme heat without any increased cost for renewal or repairs.

The Chemical-Garbage Reduction Company of Chicago, Ill., have a furnace which is the invention of Charles J. Best, a United States chemist. The company claims for it the following merits:

First, by confining the fire to the bottom of the garbage and by suction keeping the fire alive, and drawing the hot air up through the garbage, it is readily dried, all moisture being carried off, and the cremation of the garbage thereby made expedient and thorough.

Second, that the system requires no fuel after starting, because it extracts the gases from the garbage and utilizes them as fuel.

Third, that it is smokeless and stenchless, and no poisonous odors or stenches escape, but are condensed and made available.

Fourth, that a large plant, being divided into several retorts, each of which can be operated separately, affords opportunity to repair, when needed, one or more retorts without interfering with the work of the others.

Taking the latest and most trustworthy information that can be obtained of the results of the different methods of garbage disposal, the claims made are not substantiated by proof sufficient to convince the board that they are reliable.

To burn or render selected garbage brought by private teams without being weighed, and with a vague statement of so many barrels, is vastly different from the Lowell method of exact weights of swill and fuel, and city team collection, and until some of them burn or render the quantities and the kind of garbage that we do, there can be no reliable comparison.

Lowell having been the first New England city to establish a plant, partly for the education of other cities, the board now thinks it wise to allow some other city to demonstrate a more perfect system before it experiments further upon other lines.

RIVER MEADOW BROOK.

On the 12th of August, a letter was written by the clerk of the water board, and signed by its president, to the mayor, protesting against the burial of some garbage by this department, in the rear of the cremator.

When the system of driven wells was projected, some discussion arose as to the condition of the section in which it was proposed to make the experiment; but the public fears were set at rest by the assurance that the source of the supply was absolutely protected from any danger of surface contamination by a natural filter bed of an exceptional character.

The Board of Health accepted that assurance in good faith, and have not yet discovered any reason to question the authority upon which it was made. But the letter signed by Mr. Brenman stated in a most emphatic manner, backed by the quoted assertion of Mr. May, the engineer in charge of the wells, that the garbage buried by this department threatened serious danger of contamination to the water supply, although it was below any one of the wells. Therefore, acting under that official statement, the board caused a thorough inspection of the water-shed of River Meadow brook to be made, and the results are such as to demand prompt remedial and preventive action, if the premises claimed in the letter from the water department are tenable.

River Meadow brook has its rise in Baptist pond, situated in Chelmsford, a distance of seven miles from Lowell. The brook takes a very circuitous route, draining many farms and meadows, and passing through many swampy districts, the largest of which is Tophet swamp, a noisome territory in the town of Carlisle.

The principal tributary is Beaver brook, which flows from the mill pond to its confluence with River Meadow brook, a distance of three-quarters of a mile, furnishing a capable system of drainage for the village of Chelms-

ford Center; the hotel with three sinks and water closet, four dwelling houses, and a saw and grist mill, the employes of the latter using the brook for privy purposes. The surface water from the streets of Chelmsford Centre, with all its impurities, drains into the brook. It may be urged that these impurities are too remote to be threatening in their character, but it must be borne in mind that Prof. Sedgwick quite recently located the source of a typhoid fever epidemic in Lowell at a privy on the Stony brook situated several miles from the supply pipes of the city's present water system.

Coming to the city line there was found a very bad condition of affairs at city farm. There was, at the date of inspection, four hundred (400) inmates. Their convenience was provided by twenty-one water closets and two vaults. The vaults are reserved for the use of the children in the nursery and the school. These water closets together with the drains from the kitchen laundry, hospitals and sinks, discharge their contents through a twelve-inch pipe into River Meadow brook at a point about twelve hundred (1,200) feet from the system of driven wells.

The stream at this point is sluggish, and there was at the time of inspection a deposit of human excrement on the bottom of the brook, which measured six feet by fifteen, and was four feet deep. When the mass was disturbed, to ascertain its depth, it gave forth gases of a noxious character.

If there is any danger to the water from surface pollution, this putrescent mass of ordure, the scourings of an institution harboring four hundred (400) persons, many

of whom are suffering in its hospitals from loathsome diseases, ought certainly to be removed before complaint is made of anything that may possibly enter the brook *below* the driven wells.

The drainage from the barn and avenues of the city farm also flows into the brook.

Charged with these impurities the brook flows among the wells, and in time of freshet the pipes of the system become submerged beneath its waters.

From the city farm to the dam at Butler's mill, on Gorham street, the brook is an open sewer. The territory on the west bank of the brook, and lying between Plain and Grand streets, is drained by the intercepting sewer, while the sewer in Tanner street is sufficient to drain the houses and manufacturing establishments on the east bank and lying between the points stated.

That section of the brook lying between a point opposite Grand street and the dam on Gorham street, about half a mile in extent, has a width varying from twenty (20) to forty (40) feet for about four-fifths of the distance, the other fifth being the pond caused by the dam and having a width of about one hundred and twenty (120) feet.

The waters are shoal for the greater part of the distance, averaging from one to six feet. The depth of the dam varies, according to the season, from six to eight feet. The outer face of the dam has a depth of nine and one-half feet.

Into this almost stagnant body of water pours the sewage from two city sewers, the sewer from the jail, and twenty-seven (27) private drains. There are also

nine (9) privies on the brook, a small tanning establishment which empties its liquid refuse into the brook, a woolen mill which discharges scourings and dye house lees, the Thorndike Manufacturing company, and Walter Coburn's mill, all draining into the brook.

Near the bridge at Howard street is the outlet of the Grand, Daly, Howard and Hale street sewer. This sewer drains twenty-four (24) houses. At the outlet of this sewer is a deposit, two hundred (200) cubic feet in extent, of solid sewage matter. Much of this is exposed when the water in the brook is low, the odors emitted in the summer time are unpleasant, and the noxious gases given off are dangerous to the public health.

A short distance below this is a privy used by fifty (50) men in the employ of the Boston & Maine railroad. On the opposite side is a privy used by fifteen (15) men in the employ of D. W. Horne & Son. Three hundred (300) feet to the east of the railroad bridge is the outlet to the drain of the county jail. The average number of persons in this institution is one hundred (100) and the brook at this point is thoroughly impregnated with the filth which pours from this drain.

The solids from the sewage form a shallow in the brook from two to four feet deep, and the process of decay is accompanied by odors that are suggestive of disease.

The total number of water-closets and privies discharging into the brook is one hundred and fifty-four (154), sinks one hundred and seventy-seven (177), and the number of people living on the line of drainage is nine hundred and twelve (912).

The dam retarding the flow of the water, the solid deposits from these contributions of sewage sink to the

bottom and there remain until dissolved by the natural process of decomposition.

The water charged with this filth is black and foul and gives out exhalations which may at any time be the source of grave consequences, not only to the community thereabout, but to the entire city.

The Board of Health, acting upon the knowledge obtained through the above survey, condemns that portion of the brook herein described as, a common nuisance, and advises both the water department and the city council to institute measures to speedily and effectively remove the danger.

GENERAL INSPECTION.

The work of inspecting the tenement houses of Lowell in a thorough and systematic way has been commenced this year, and so far the results have been very satisfactory; but the great value of the inspection will come in later years, as from the records made and kept by the library system, an inspector can turn to them at any time and find the condition of any house in the city so far as relates to plumbing, drainage and ventilation, and will then only have to keep watch that the premises are kept clean and in repair.

At a meeting of the board March 16th, Francis J. O'Hare and Winfield Webster were elected inspectors, having been certified from the civil service commissioners as having passed the required examination.

It was also voted that the city be divided into three sanitary districts:

District 1,	to include wards one and two;
“ 2,	“ “ four and five;
“ 3,	“ “ three and six;

That each district be in charge of an inspector, under the supervision of the agent, who shall be held to a strict account for the sanitary condition of his district.

Each inspector shall make examination into the condition of the tenement houses, alleys, streets, yards, water closets, privies, etc., and shall make a daily written report to the agent.

The agent shall keep in suitable and permanent form, an exact record of the condition of tenement houses, stables, etc., as reported by the inspectors.

There shall be a chief inspector, who shall have supervision under the direction of the agent, of contagious diseases and the department stables, and shall perform such other duties as the agent may prescribe.

District 1, wards one and two, was assigned to Stephen Garrity.

“ 2, “ four and five, “ Winfield Webster.

“ 3, “ three and six, “ Francis J. O'Hare.

Fred A. Bates was appointed chief inspector.

DISTRICT ONE. INSPECTIONS MADE IN WARDS ONE AND TWO
DURING 1893, STEPHEN GARRITY, INSPECTOR.

House drains.....	195
Tenements.....	350
Cellars.....	149
Yards.....	189
Water-closets.....	403
Vaults.....	103
Hog pens.....	4
Stores.....	52
Barns.....	15
Dry wells.....	3
Hen houses.....	8
Complaints.....	95

The above work was in addition to the regular work done by inspector Garrity as inspector of plumbing, as

shown by the table herewith of applications and inspections, for 1893.

APPLICATIONS RECEIVED FOR PLUMBING.

1893.	First visit.	Second visit.
January.....	4	8
February.....	6	12
March.....	7	14
April.....	9	18
May.....	22	44
June.....	28	56
July.....	33	66
August....	25	50
September	14	28
October.....	22	44
November.....	28	56
December.....	14	28
Total.....	212	424

DISTRICT TWO. INSPECTIONS MADE IN WARDS FOUR AND FIVE
DURING 1893, WINFIELD WEBSTER, INSPECTOR.

Brooks.....	1
Water-closets.....	1274
Cesspools	17
Drains.....	439
Roofs.....	7
Alleys.....	2
Vaults	176
Barns.....	58
Tenements.....	1645
Stores.....	117
Yards	412
Ash chutes	1
Cellars.....	498
Hogs.....	5
Wells.....	8
Hens.....	3
Swill collectors (no license).....	2
Verbal notices given	376

DISTRICT THREE. INSPECTIONS MADE IN WARDS THREE AND SIX DURING 1893, FRANCIS J O'HARE, INSPECTOR.

House drains.....	635
Tenements.....	1264
Cellars.....	529
Yards.....	401
Water-closets.....	727
Vaults.....	224
Hog pens.....	6
Stores.....	67
Complaints of nuisances.....	89
Barns.....	34
Dry wells.....	8
Hen houses.....	6
Hotels.....	2
School houses.....	2

NOTICES SENT FROM OFFICE TO ABATE THE FOLLOWING
NUISANCES :

Imperfect chimney.....	1
“ rain conductor.....	1
“ refrigerator wastes.....	3
“ wooden sink.....	1
Exposed manure piles.....	9
Imperfect dry wells.....	7
Leaking water pipe.....	7
Dilapidated vaults.....	59
Imperfect drain pipes.....	43
“ drains.....	25
Sinks without traps.....	197
Imperfect sinks.....	25
No water supply.....	15
Broken traps.....	30
Swine.....	7
Hens.....	3
Stables.....	12
Demolished building.....	1
Cesspools.....	10
Leaking roofs.....	5

Imperfect soil pipes	159
Clogged waste pipes.....	13
Bad wells.....	5
Poor water supply.....	61
Clean vaults.....	57
Imperfect water-closets	212
Filthy yards.....	250
" cellars	135
" swill receptacles.....	9
Remove vaults.....	144
Water-closets ordered put in.....	1
Filthy tenements.....	5
Reconstruct plumbing	3
Whitewash tenements	66
Dangerous steps.....	3
Filthy ash chute.....	1
Fish refrigerator.....	1
Collecting swill without license.....	4
House drains ordered connected with sewer.....	2
Permits given to open vaults.....	1329
Permits given for burial.....	2095

BATH HOUSE.

From June 27th to September 16th there were fourteen thousand nine hundred and eighteen (14,918) baths taken by men and boys, a decrease from 1892 of eight thousand three hundred and forty-seven (8,347), but it is explained by the fact that more than that number used the house to put their clothes in, and then came outside and swam in the river.

CEMETERIES.

After a thorough inspection of all the burial places in Lowell, it was voted by the board October 20th that a section measuring four hundred ninety-nine, (499) feet by thirty-two (32) feet to a section measuring two hundred seventy-five (275) feet by one hundred thirty-

five (135) feet in St. Patrick's cemetery and marked by stakes be closed against burial purposes.

October 23rd it was voted that burial in private lots situated within those sections of St. Patrick's cemetery ordered closed by the board, may be made with the consent of the Board of Health. The following amended rules for the government of places of burial and interment were adopted :

Rule 1. No undertaker shall inter any dead body or remove it from the city for interment without first securing a permit from the Board of Health.

Rule 2. When an undertaker is called to a house where a person has died of small pox, varioloid, diphtheria, membranous croup, scarlet fever, measles, typhus fever, yellow fever, or Asiatic cholera, he shall give immediate notice thereof to the Board of Health.

Rule 3. After the death of a person from one of the foregoing diseases a private funeral shall be held, at such time as the Board of Health may direct. At such funeral none but the immediate adult relatives shall be present. The body shall in no case be carried to the grave in a hack or other public conveyance.

Rule 4. In no case will a message by telephone be considered a satisfactory notification of death from an infectious disease.

Rule 5. No person having in charge any cemetery or burial ground within the city of Lowell, shall permit a body to be interred therein unless he receives a written permit from the Board of Health for such burial.

Rule 6. Superintendents of cemeteries and persons having charge of places of burial shall cause to be deposited at the office of the Board of Health a plan of such cemetery or burial place, setting forth the arrangement and distribution of lots and the method of drainage.

Rule 7. Hereafter, all cemeteries and places of burial shall be laid out in definite and regular order with distinguishing marks for the ranges and the lots therein

Rule 8. New territory shall not be opened for burial purposes without the permission of the Board of Health.

Rule 9. Superintendents shall cause to be entered in a book kept for that purpose, a correct record of every burial, giving the name, age and birth-place of each decedent, and they shall make written report of the same to the health officer at least once a week.

Rule 10. Not more than two bodies shall be buried in one grave unless permission is obtained from the Board of Health to increase the number.

Rule 11. No body shall lie within less than three feet of the surface of the ground surrounding the grave.

Rule 12. It is forbidden to disinter bones or fragments of coffins, or to re-open sections formerly used as burial places. The remains of the dead shall not be disturbed without permission of the Board of Health.

Rule 13. When a burial is made the grave must be instantly filled.

Rule 14. In cases of death from infectious diseases, no religious services shall be held in the cemetery until after the grave has been filled.

Any violation of these rules shall be punishable with a fine not exceeding \$100.

CASES OF CONTAGIOUS DISEASES REPORTED.

	1893	1892	1891	1890	1889
Diphtheria.....	78	69	78	157	298
Membranous croup.....	7	...	...	...	...
Scarlet fever.....	209	240	237	230	155
Measles.....	541	91	675	240	109
Typhoid fever.....	160	373	293	454	194
Small pox.....	1	...	...	...	...
Total	996	773	1283	1081	756

The most noteworthy facts in the figures for 1893 are that measles has again become epidemic, and that there was less typhoid fever reported than for several years. There was a slight increase in the number of cases of diphtheria and croup, and late in December the commencement of a slight epidemic of small pox.

DEATHS FROM CONTAGIOUS DISEASES.

	1893	1892	1891	1890	1889
Diphtheria.....	16	25	15	41	100
Membranous croup.....	14	..	..	..	...
Scarlet fever.....	18	13	8	7	13
Measles.....	10	11	11	2	3
Typhoid fever.....	53	75	77	123	65
Total	111	124	111	173	181

The small number of deaths from all these causes combined, is a matter for congratulation. There have not been fewer deaths from these diseases during the past eleven years.

DIPHTHERIA AND CROUP.

This year the two diseases are purposely separated in the tables, although the board fully believes, as it has for years past, in the identity of diphtheria and membraneous croup.

That many of our physicians do not yet recognize this truth is shown by the fact that while there were fourteen deaths from diphtheritic croup, there were only seven cases of croup reported. The experience of health officers that a case of croup in a family is frequently followed by a case of diphtheria, or vice versa, is often seen in our own city. The clinical experience of physicians that the two diseases are one, has been confirmed recently by bacteriological investigations. In 84 per cent. of the cases of membraneous croup reported to the New York city board of health, the Klebs-Loeffler bacillus has been found, thus proving the identity of this malady with diphtheria. With this weight of evidence, physicians should no longer neglect their duty, but should inform their patients of the contagious nature of membraneous

croup, and should report it promptly to the Board of Health.

Below are tables giving the distribution of diphtheria and croup by months, and by localities.

DIPHTHERIA.

1893.	Reported Cases.	Deaths.
January.....	15	3
February.....	6	0
March.....	3	0
April.....	6	2
May.....	4	0
June.....	8	2
July.....	5	2
August.....	1	0
September.....	11	2
October.....	7	0
November.....	6	2
December.....	6	3
Total.....	78	16

1893.

Cases reported.....	78
Deaths.....	16
Per cent of fatal cases.....	20

DEATHS FROM DIPHTHERIA.

1893.	Age.	Ward.
January 1 Female. 2	15 Lilley avenue.....	2
“ 7 “ 7	41 Myrtle street.....	2
“ 12 “ 9	21 Third street.....	2
February 14 Male. 2	Mammoth road.....	5
March 31 Female. 2	134 Adams street.....	1
April 2 “ 2	Manning place.....	5
“ 27 “ 3	Moody street.....	5
“ 29 Male. 3	Perkins street.....	5
June 7 “ 4	189 Suffolk street.....	1
“ 8 “ 7	171 School street.....	5

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July	3	Female.	4	Ward street.....	5
"	15	Male.	6	33 Bleachery street.....	3
September	5	Female.	2	11 Somerset street.....	4
"	5	Male.	9	Laurel street.....	6
November	30	Female.	3	1 Fruit street.....	3
December	8	"	1	23 Jefferson street.....	1

	Reported Cases.	Deaths.
Ward 1.....	6	3
" 2.....	17	3
" 3.....	19	2
" 4.....	5	1
" 5.....	19	6
" 6.....	12	1
Total.....	78	16

MEMBRANEOUS CROUP.

1893.	Reported Cases.	Deaths.
January.....	2	1
February.....	0	0
March.....	0	0
April.....	1	2
May.....	0	1
June.....	1	1
July.....	0	0
August.....	0	1
September.....	1	3
October.....	1	2
November.....	1	3
December.....	0	0
Total.....	7	14

DEATHS FROM MEMBRANEOUS CROUP.

1893.	Age.	Ward.
January 18	Female. 3	51 Jewett street..... 2
April 20	" 8	Perkins street..... 5
" 24	" 4	7 Austin street..... 5
May 27	" 5	172 Hale street..... 3

June	1	"	10	106	Liberty street.....	4
August	14	Male.	2	18	Ludlam street.....	2
September	17	Female.	5		Birch street.....	6
"	18	"	1	30	Mammoth road.....	5
"	29	Male.	3	442	Adams street.....	5
October	7	"	1	15	Winter street.....	4
"	28	"	5	442	Adams street.....	5
November	4	Female.	1	11	Marshall street.....	4
"	4	"	1	38	High street.....	6
"	18	"	4	23	Jefferson street.....	1

SCARLET FEVER.

	1893	1892	1891	1890	1889
Cases reported.....	209	240	237	230	155
Deaths.....	18	13	8	7	13
Per cent. fatal cases.....	8	5	3	3	8

1893.	Reported Cases.	Deaths.
January.....	30	1
February.....	27	3
March.....	11	0
April.....	16	1
May.....	10	2
June.....	8	1
July.....	6	1
August.....	7	1
September.....	25	3
October.....	24	2
November.....	21	2
December.....	24	1
Total.....	209	18

The table of reported cases of scarlet fever shows in a striking manner how the disease fell off during the summer vacation of the schools. The practice of allowing children to use their slates and slate pencils interchangeably can not be commended. There must be mild and unrecognized cases of scarlet fever sent to school in

the desquamating stage, without coming under a physician's notice. Until there is a routine and frequent medical inspection of the scholars during school hours, contagious diseases, such as scarlet fever and diphtheria, will in all probability be spread through attendance at school.

LOCATION OF DEATHS.

1893.			Age.	Ward.
Jan.	21	24 Crosby street.....	4	3
Feb.	25	2 Gage street.....	5	5
"	27	32 Appleton street.....	1	4
"	28	2 Doherty's court.....	2	3
May	8	41 Marion street.....	10 mo.	1
"	26	48 Massachusetts corporation.....	10 mo.	6
"	26	24 Linden street.....	2	3
June	30	40 Barclay street.....	3	4
Aug.	25	Hall street.....	4	5
Sept.	7	24 Wall street.....	5	6
"	14	737 Lakeview avenue.....	4	2
"	20	16 Marion street.....	2	1
Oct.	12	441 Lawrence street.....	1	3
"	16	183 Broadway.....	6	5
"	24	47 Cross street.....	3	1
"	31	4 Jenness street.....	5	4
Dec.	9	207 Stackpole street.....	2	6
"	11	62 Fayette street.....	4	6

MEASLES.

1893.	Reported cases.	Deaths.
January	30	3
February.....	44	0
March.....	58	2
April.....	43	1
May.....	192	2
June.....	116	1
July.....	31	0
August.....	8	0
September.....	4	0

October	3	0
November	6	1
December	6	0
Total	541	10

TYPHOID FEVER.

1893.	Reported cases.	Deaths.
January	33	10
February	16	7
March	14	4
April	8	5
May	9	3
June	12	2
July	3	1
August	10	5
September	9	3
October	10	5
November	10	3
December	26	5
Total 1893	160	53
" 1892	373	75
" 1891	293	77
" 1890	454	123
" 1889	194	65
" 1888	Not reported	65
" 1887	" "	88

There have been fewer deaths from typhoid fever than in any of the past seven years, probably due to the fact that no epidemic of the disease has appeared in the cities which empty their sewage into the Merrimack river above the point where Lowell gets its water supply.

In the fall a portion of the city began to be supplied with water of undoubted purity from the driven well plant. As the city will probably depend on the river for a large part of the water supply, it will be well for

Lowell to profit by the experience of Lawrence. In that city, after observing the results obtained at the experiment station of the state board of health, a filter bed of two and one-half acres was constructed at a cost of sixty-five thousand dollars (\$65,000) and capable of filtering the water supply of a city one-half the size of Lowell. Roughly speaking, ninety-eight per cent. of all the bacteria are removed by filtration, and in addition so much of the organic matter, which acts as a food for the bacteria, is destroyed, that one and one-half per cent. of the remaining bacteria die of inanition before the water reaches the consumer. Thus but one two-hundredth of the bacteria in the river is present in the house taps in Lawrence, and what is of practical importance, the amount of typhoid fever has greatly diminished in the few months that the filter has been in use.

PLACE OF DEATH.

Ward 1.....	1
“ 2.....	6
“ 3.....	9
“ 4.....	6
“ 5.....	11
“ 6.....	5
Lowell hospital.....	8
St. Johns hospital.....	5
Lowell General hospital.....	2
Total.....	53
Males.....	27
Females.....	26
Oldest.....	58
Youngest.....	3
Average age.....	24

CASES REPORTED.

1893.

Ward 1	12
“ 2	24
“ 3	31
“ 4	33
“ 5	34
“ 6	26
Total	160
Males	97
Females	63
Average age	22
Water closets	129
Vaults	31

DEATHS FROM CHOLERA INFANTUM.

	1893	1892	1891	1890	1889
January	4	2	2	1	1
February	6	2	2	2	5
March	12	3	3	1	0
Total first quarter....	— 22	— 7	— 7	— 4	— 6
April	7	0	5	5	4
May	2	9	7	3	5
June	15	25	27	10	36
Total second quarter..	— 24	— 34	— 39	— 18	— 45
July	99	86	81	82	68
August	76	56	57	67	46
September	38	39	53	28	32
Total third quarter...	— 213	— 181	— 191	— 177	— 146
October	13	5	8	13	13
November	3	2	6	4	2
December	2	4	3	2	3
Total fourth quarter..	— 18	— 11	— 17	— 19	— 18
Total for the year..	277	233	254	218	215

The record of deaths from cholera infantum is discouraging. In previous years the board has had physicians make their daily visits in the tenement house districts during July and August. Instructions in infant feeding and other sanitary measures have been given, but no practical results have been obtained. To change the habits of the class of people in which the disease is most common, would require a large expenditure of money, time and patience for several years.

SMALL POX.

On December 25th a case of small pox was reported to the board. On examination it was found that a young man residing on Crosby street, and employed in a liquor saloon on the same street, had been ill for over a week. The abundant vesicular eruption was already becoming pustular. He was immediately removed to the small pox hospital. Most of his bedding and clothing were burned and the remainder thoroughly disinfected. All persons whom it was known had been exposed were vaccinated, and his residence quarantined. In addition to the daily vaccination at city hall, a room for free vaccination was opened in the infected locality, and later a house-to-house vaccination was performed. Directly or indirectly connected with the case, six others developed. As these latter cases occurred in 1894, further discussion of this slight epidemic and its probable origin had best be deferred until the next annual report.

VITAL STATISTICS.

	1893	1892	1891	1890	1889
Deaths males.....	1015	1083	948	926	874
“ females.....	1080	1141	1024	1033	1025
Total.....	2095	2224	1972	1959	1899

Children under one year.....	683	673	589	580	569
“ “ two years.....	820	820	710	703	687
“ “ five years.....	936	928	830	810	811
Per cent. of total deaths under five years.....	44.7	41.8	42.1	41.3	42.7
Diarrhœal diseases under one year	266	217	241	202	206
“ “ “ two years	299	251	273	233	237
“ “ “ five years	308	255	280	237	246
“ “ “ all ages..	335	273	306	254	269
Per cent. of total deaths from diarrhœal diseases.....	16.	12.3	15.6	12.9	14.1
Per cent. of total deaths from zymotic diseases.....	24.7	23.2	32.1	25.9	25.4

The foregoing table calls attention markedly to the increased per cent. of deaths under five years, largely due to diarrhœal diseases; that is, to cholera infantum.

Birth-place.	Of deceased.	Of parents.
Lowell.....	1031	164
Massachusetts elsewhere.....	111	186
Other states.....	234	372
Ireland.....	351	1356
Dominion of Canada.....	221	1325
Great Britain.....	85	304
Other countries.....	28	115
Unknown.....	34	168

PLACES OF DEATH.

Ward 1.....	257
“ 2.....	280
“ 3.....	359
“ 4.....	269
“ 5.....	479
“ 6.....	245
Almshouse.....	85
Lowell hospital.....	33
Lowell General hospital.....	3
St. John's hospital.....	85
Total deaths.....	2,095

PLACES OF INTERMENT.

Catholic cemetery.....	1402
Edson cemetery.....	449
Lowell cemetery.....	69
Other cemeteries.....	8
Removed from the city.....	167
Total.....	2,095

DEATHS CLASSIFIED.

	1893	1892	1891	1890	1889
Diseases of the nervous system,	284	301	245	253	267
“ “ “ circulatory “	130	141	150	150	143
“ “ “ respiratory “	376	350	294	243	214
“ “ “ digestive “	86	106	90	86	92
“ “ “ genito-urinary system,	58	70	73	63	55
All other local diseases,	7	9	15	10	9
Total deaths from local diseases...	941	977	867	805	780
“ “ “ zymotic diseases	518	516	461	508	484
“ “ “ constitutional					
diseases.....	295	349	340	331	336
“ “ “ developmental					
diseases.....	285	324	257	272	258
“ “ “ violence or un-					
known causes.	56	58	47	43	41
“ “ “ all causes.....	2,095	2,224	1,972	1,959	1,899

PRINCIPAL CAUSES OF DEATH.

	1893	1892	1891	1890	1889
Cholera infantum and other					
diarrhœal diseases	335	273	306	254	269
Phthisis and other tuberculoses...	228	238	256	253	250
Pneumonia and bronchitis.....	343	330	265	220	159
Infantile debility, marasmus, and					
inanition.....	216	231	155	164	159
Heart disease.....	128	140	156	148	141
Typhoid fever.....	53	75	77	123	65

Apoplexy and paralysis.....	107	99	74	74	69
Old age.....	69	56	61	66	55
Disease of the brain (unclassified)..	43	60	40	60	64
Convulsions	63	51	53	60	63
Diseases of the kidneys	54	64	66	56	46
Meningitis.....	56	83	65	51	49
Diphtheria and croup.....	37	25	15	41	100
All other causes.....	363	499	383	389	374
Totals.....	2,095	2,224	1,972	1,959	1,899

DEATHS IN 1893.

	Compared with 1892.	
	Decrease.	Increase.
Cholera Infantum and other diarrhoeal diseases.....	..	62
Phthisis and other tuberculoses.	10	..
Pneumonia and bronchitis.....	..	13
Infantile debility, marasmus, and inanition	15	..
Heart disease	12	..
Typhoid fever.....	22	..
Apoplexy and Paralysis.....	..	8
Old age.....	..	13
Disease of brain (unclassified) ..	17	..
Convulsions	..	12
Disease of kidneys.....	10	..
Meningitis.....	27	..
Diphtheria and croup.....	..	12
All other causes.....	136	..
Totals.....	249	120
Total decrease.....	129	...

DEATH RATE.

Population, census of.....	1880	59,485
“ “ “	1885	64,051
“ “ “	1890	77,605
“ “ “	1891 (estimated)	80,400
“ “ “	1892 (estimated)	83,200

Year.	Population.	Death rate.
1886	66,761	22.45
1887	69,475	26.94
1888	72,183	24.42
1889	74,894	25.38
1890	77,605	25.25
1891 (6 months)	79,000	
1891 (6 months)	80,400	24.72
1892 (6 months)	81,800	
1892 (6 months)	83,200	26.95
1893 (6 months)	84,500	
1893 (6 months)	87,191	24.02

HEALTH BULLETIN.

In common with other large cities, Lowell sends every month a health bulletin to different cities and sanitary authorities, and also to the local physicians and others interested in the subject. This bulletin is prepared by the chairman of the board. In it there is given under each disease, the age, sex, and number of deaths for the same month of the previous year. A comparative table of the deaths, percentage of infantile mortality, zymotic diseases, and of the number of contagious diseases reported, is given. The birth-place and parentage of the deceased, and the place of death and of interment are also given.

In Lowell there is no United States signal service station upon which the board can depend for meteorological observation. For this reason the board purchased in 1889 from the government a set of standard instruments, and engaged Mr. F. E. Saunders to make the observations. Daily readings of the barometer, maximum and minimum thermometers, calculations of the dew point, relative and absolute humidity are made. These observations are taken at certain stated hours two and three times

each day. The direction of the wind is noted, but there is as yet no anemometer in the city to measure the wind's velocity. The daily rainfall has been kindly furnished from reading of the Locks and Canals rain gauge. A summary of the observations for 1893 follows:

SUMMARY OF METEOROLOGICAL OBSERVATIONS FOR 1893.

MONTH.	Mean barometer.	Mean temperature.	Mean relative humidity.	Mean dew point.	Prevailing direction of wind.	Monthly rain fall.
January.....	29.91	17.2	81.5	12.	W. N. W.	2.392
February.....	30.05	23.2	82.4	17.9	W. N. W.	7.703
March.....	30.00	31.	77.8	24.	W. N. W.	2.439
April.....	30.05	43.1	70 6	32.8	W. N. W.	2.946
May.....	29.87	57.8	74.9	45.8	S. S. E.	4.900
June.....	30.01	67.2	78.8	57.9	S. S. E.	2.414
July.....	29.91	72.5	69.1	59.5	W. N. W.	2.696
August.....	29.94	71.1	79.4	62.	S. S. W.	3.944
September.....	30.01	60.1	79.4	49.5	W. N. W.	2.293
October.....	30.08	55.3	77.3	44.1	S. S. W.	3.825
November.....	30.05	41.	80.6	32.8	S. S. W.	1.933
December.....	30.05	27.5	83.2	22.2	S. S. W.	5.460
Totals.....	.....	.....	.....	.....	.....	42.945
Means.....	29.99	47 2	77.9	38.4	W. N. W.	

Mean barometer, 29.99 inches.

Highest barometer, 30.82 inches on December 14.

Lowest barometer, 28.86 inches on February 20.

Annual range of barometer, 1.96 inches.
 Mean temperature, 47.2 degrees.
 Highest temperature, 97 degrees on August 10.
 Lowest temperature, 10 degrees December 14.
 Annual range of temperature, 107 degrees.
 Greatest daily range of temperature, 44 degrees on February 6.
 Least daily range of temperature, 1 degree on April 20.
 Mean maximum temperature, 57.2 degrees.
 Mean maximum temperature, 37.4 degrees.
 Mean daily range of temperature, 19.8 degrees.
 Mean daily dew point, 38.4 degrees.
 Mean daily relative humidity, 77.9 degrees.
 Prevailing direction of wind, W. N. W.
 Number of clear days, 77.
 Number of fair days, 181.
 Number of cloudy days, 107.
 Total number of days on which rain or snow fell, 114.
 Thunder storms, 10.
 Mean temperature for 1893, 47.
 Average mean temperature for past 16 years, 47.
 Highest mean temperature for past 16 years, 50 for the year 1878.
 Lowest mean temperature for past 16 years, 43 for the year 1883.
 Total rainfall for 1893, 42.945 inches.
 Average rainfall for past 16 years, 45.481 inches.
 Highest rainfall for past 16 years, 59.915 inches in 1888.
 Lowest rainfall for past 16 years, 32.418 inches in 1883.

ANALYSIS OF PAY ROLL.

Amount expended, collection of ashes.....	\$ 11,542.94
.. .. collection of swill.....	7,022.66
.. .. alleys and dumps.....	1,389.03
.. .. general inspection.....	2,753.75
.. .. plumbing inspection.....	1,014.00
.. .. agent.....	1,601.60
.. .. registrar	414.00
.. .. stable	1,458.38
.. .. foreman.....	699.60

Amount expended, bath house.....	167.00
.. .. cleaning hospital.....	35.50
.. .. cremator	2,149.20
Total	<u>\$30,247.66</u>

BILLS PAID IN 1893.

January.....	\$ 2,042.41
February.....	770.97
March.....	1,139.45
April.....	2,258.30
May.....	1,503.03
June.....	1,188.17
July.....	1,650.00
August.....	1,226.06
September.....	2,015.61
October.....	1,146.45
November.....	1,651.35
December.....	1,387.08
Total.....	<u>\$17,978.88</u>

Hay, oats, straw, corn, etc	\$ 3,430.55
New wagons and sleighs	1,319.25
New harnesses.....	400.00
Horses bought—six at \$200 ; one at \$250.....	1,450.00
Shoeing horses.....	285.35
Use of horses from other stables.....	104.00
Repairing wagons and harnesses.....	908.52
Lumber and hardware.....	656.07
Fumigation.....	243.17
Stable, sundries.....	713.99
Office, printing, stamps, etc.....	749.42
Office, rent and sundries.....	820.42
Vaccine points.....	55.57
Physicians' services.....	438.00
Legal services.....	11.15
Bath house.....	255.89
Small pox hospital.....	71.80
Telephone service.....	200.50

BOARD OF HEALTH

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Temperature readings	173.35
Cremator.....	5,521.57
Water, public urinals and stable	90.00
Expenses Dr. Lawler, Washington, D. C.....	73.00
Expenses James Bayles, Scranton, Pa.....	7.31
Total.....	<u>\$17,978.88</u>

Total pay roll.....1893	\$30,247.66
“ bills..... “	17,978.88
“ salaries..... “	1,200.00
Total.....	<u>\$49,426.54</u>
Balance.....1892	868.07
Receipts.....1893	63.15
Appropriation..... “	25,000.00
Transfers..... “	12,000.00
Loan..... “	12,000.00
Total cost..... “	49,426.54
“ “ 1892	43,371.86
“ “ 1891	30,827.28
“ “ 1890	31,439.86
“ “ 1889	33,042.66

Respectfully submitted,

JAMES B. FIELD, M. D., *Chairman.*JAMES BAYLES. *Secretary.*WM. P. LAWLER, M. D., *City Physician.*

Schedule of property owned by the city of Lowell in care of Board of Health.

Twenty-one horses.....	\$3.150.00
Twenty-four single harnesses.....	500.00
Two pairs double harnesses.....	80.00
Nine surcingles.....	10.00
Twelve horse covers.....	30.09
Twenty-three blankets.....	40.00
Twenty-five curry combs and brushes.....	10.00
Twenty-two halters.....	10.00
Nine single carts.....	500.00
Two double carts.....	150.00
Seven swill wagons.....	300.00
One double wagon.....	100.00
One steel wagon.....	150.00
Fourteen sleds.....	700.00
Two double sleds.....	100.00
Three wagons.....	300.00
One hospital wagon.....	50.00
Two buggies.....	100.00
Two pungs.....	100.00
Two sleighs.....	100.00
Four wolf robes.....	25.00
Stable and sheds.....	1200.00
Small pox hospital and furniture.....	400.00
Bath house and fixtures.....	1000.00

BOARD OF HEALTH

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Two public urinals.....	400.00
Two stoves.....	25.00
One copper tank.....	6.00
Six hundred feet rubber hose.....	50.00
Fifty-five shovels.....	30.00
Twelve ice cutters.....	10.00
Twenty hoes and rakes.....	6.00
Two hundred bushels oats.....	80.00
Sundry tools and fixtures.....	25.00
Engle cremater.....	5000.00
Meterological instruments.....	75.00
Two paper wagons.....	200.00
One rockaway.....	100.00
Total.....	\$15,112.00

MEMBERS OF THE BOARD OF HEALTH.

YEAR.	CHAIRMAN.	OTHER APPOINTED MEMBERS.	CITY PHYSICIANS, EX-OFFICIO.	AGENT AND SUPT. OF HEALTH DEPARTMENT.
1878.....	J. W. B. Shaw.....	Michael Hoar.....	L. Huntress, Jr., M. D..	Frederick A. Bates.
1879.....	J. W. B. Shaw.....	Michael Hoar.....	E. W. Trueworthy, M.D.	
1880.....	J. W. B. Shaw.....	Michael Hoar.....	E. W. Trueworthy, M.D.	
1881.....	J. W. B. Shaw.....	Nathan Allen, M. D....	E. W. Trueworthy, M.D.	
1882.....	J. W. B. Shaw.....	Nathan Allen, M. D....	W. G. Eaton, Jr., M. D.	
1883.....	J. W. B. Shaw.....	Wm. M. Hoar, M. D....	W. G. Eaton, Jr., M. D.	
1884.....	Wm. M. Hoar, M. D....	James J. McCarty, M.D.	W. G. Eaton, Jr., M. D.	
1885.....	J. W. B. Shaw.....	James J. McCarty, M.D.	John J. Colton, M. D....	
1886.....	J. W. B. Shaw.....	Nathan Allen, M. D....	John J. Colton, M. D....	
1887.....	Nathan Allen, M. D....	Charles R. Costello.....	John J. Colton, M. D....	
1888.....	James B. Field, M. D....	Charles R. Costello.....	J. Arthur Gage, M. D....	
1889.....	James B. Field, M. D....	Charles R. Costello.....	J. Arthur Gage, M. D....	
1890.....	James B. Field, M. D....	Charles R. Costello.....	J. Arthur Gage, M. D....	
1891.....	Charles R. Costello.....	James B. Field, M. D....	Wm. P. Lawler, M. D....	
1892.....	Charles R. Costello.....	James B. Field, M. D....	Wm. P. Lawler, M. D....	
1893.....	James B. Field, M. D....	James Bayles.....	Wm. P. Lawler, M. D....	

H. H. Knapp.

H. H. Knapp.

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ANNUAL REPORT

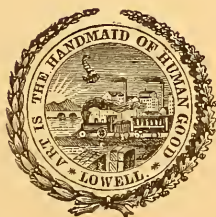
OF THE

INSPECTOR OF MILK AND VINEGAR

OF THE

CITY OF LOWELL

FOR THE YEAR 1893.



LOWELL, MASS.:

VOX POPULI PRESS: S. W. HUSE & CO.

1894.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, January 23, 1894.

Received and ordered on file.

MICHAEL J. DOWD, *City Clerk.*

REPORT.

To His Honor the Mayor, and the Board of Aldermen of the City of Lowell:

I have the honor to submit my third annual report as Inspector of Milk and Vinegar.

The work of the department has been continued in the same lines as last year, by the chemical analysis of all samples of milk, vinegar, and butter taken, and many that have been brought in.

The duties of the Inspector, as defined by statutes under which he acts, are the issuing of licenses, the registration of stores where milk or oleomargarine is sold, collection and inspection of samples, and the enforcement of the law in the courts.

The statistics of the office and the details of the work performed will be found under the proper headings.

LICENSES.

The statutes require the Milk Inspector to license every person who conveys milk or oleomargarine,

in carriages or otherwise, for the purpose of selling the same, annually on the first day of May, or within thirty days thereafter, and they shall pay fifty cents for the use of the City. The statutes also require all stores, booths, stands, or market places, before selling milk or oleomargarine, to register in the books of the Inspector and pay fifty cents, which fee is paid but once. Licenses are issued only in the name of owners, and may not be sold, assigned, or transferred. Each license records the name, residence, place of business, number of carriages, or other vehicles used, the name and residence of every driver or other person engaged in the carrying or selling, and the number of the license. The licensee is required to cause his name, the number of his license, and his place of business, to be legibly placed on each outer side of all carriages or vehicles used by him in the sale and conveyance of milk or oleomargarine, and to report to the Inspector any change of driver or other persons employed; for failure to comply with these requirements, or for selling or exposing for sale from carriages or other vehicles, without first being licensed, a fine of not less than thirty nor more than one hundred dollars may be imposed; for a second offense heavier penalties may be imposed. Failure to register for the sale of milk or oleomargarine from store, booth, stand, or market place, is punishable by a fine not exceeding twenty dollars.

Number of licenses to dealers conveying milk by carriages or otherwise for the purpose of sale.....	151
Number of registrations of store-keepers en- gaged in the sale of milk.....	63
Total number of licenses and registrations.	214
Fines as result of prosecutions	\$900 00
Amount of money turned over to City Treasurer	\$1,007 00

INSPECTION.

It is the duty of the Inspector to enter all places where milk is stored or kept for sale, and take samples for analysis. It is the custom of the Inspector to take samples from wagons and stores in about the same proportion. There are also a great many samples brought in by citizens, which are analyzed free of charge.

In most instances where milk taken from stores has not been up to the legal standard, warnings have been issued, and in almost every case they caused an improvement in the quality of milk sold. It is the custom to pay for milk taken from stores, but not that taken from wagons.

Total number of milk inspections.....	1258
Total number warnings sent.....	26

COMPLAINTS.

The statutes provide penalties :

For neglecting or refusing to license or register for sale of milk.

For selling, or exposing for sale, adulterated milk, milk not of standard quality, milk to which water or any foreign substance has been added, milk produced from sick or diseased cows, or milk produced from cows fed on the refuse of distilleries.

For selling, or offering for sale, as pure milk, milk from which the whole or any part of the cream has been removed.

For selling skimmed milk, unless from cans or other vessels marked as required by statute.

For selling, exposing for sale, or possessing with intent to sell, milk or skimmed milk which is not of standard quality, *i. e.*, containing less than thirteen per cent. of milk solids, in the case of whole milk; or less than nine and three-tenths per cent. of milk solids, exclusive of fat, in case of skimmed milk.

For obstructing in any manner the Milk Inspector or his assistants in the performance of their duties.

For neglecting or refusing to license or register for the sale of oleomargarine, butterine, etc.

For selling, exposing for sale, or possessing with intent to sell, oleomargarine, butterine, imitation butter, or imitation cheese, unless marked as required by statute.

For selling, exposing for sale, or possessing with intent to sell, oleomargarine, butterine, etc., containing any coloring matter that causes it to look like butter.

For the sale, or exposure for sale, as cider vinegar, vinegar which is not made exclusively of apple cider.

For the sale, or exposure for sale, of vinegar containing any artificial coloring matter, or containing any preparation of lead, copper, sulphuric acid, or any ingredient injurious to health.

For the sale of any vinegar not of standard quality, *i. e.*, containing less than four and one-half per cent. of absolute acetic acid, or, in the case of cider vinegar, containing less than two per cent., by weight, of cider vinegar solids.

It is the duty of the Inspector to make complaint for any of the offenses thus enumerated, which may be brought to his notice as a result of his analysis of samples, or on the information of any person who lays before him satisfactory evidence upon which to sustain such complaint.

CONVICTIONS.

Number of complaints for having in his possession with intent to sell, milk of not good standard quality	17
Number of convictions	15
Number of cases withdrawn	2

The following is the standing of milk of which complaints have been made:

TOTAL SOLIDS.	SOLIDS NOT FAT.	FAT.	ASH.
6.46 per cent.	4.92 per cent.	1.54 per cent.	.32 per cent.
8.46 "	6.56 "	1.90 "	.42 "
9.58 "	6.70 "	2.88 "	.36 "
9.82 "	6.88 "	2.94 "	.44 "
10.02 "	7.46 "	2.56 "	.64 "
10.32 "	7.58 "	2.74 "	.50 "
10.38 "	7.04 "	3.34 "	.46 "
10.60 "	7.68 "	2.92 "	.54 "
10.70 "	7.52 "	3.18 "	.44 "
10.92 "	7.86 "	3.06 "	.56 "
10.98 "	8.80 "	2.18 "	.48 "
11.14 "	7.60 "	3.54 "	.52 "
11.26 "	8.44 "	2.82 "	.56 "
11.28 "	8.70 "	2.58 "	.56 "
11.78 "	8.82 "	2.96 "	.50 "

STANDING OF MILK.

The following is the average standing of the samples of milk analyzed each month:

	TOTAL SOLIDS.	
	FROM WAGONS.	FROM STORES.
January	13.57 per cent.	13.01 per cent.
February	12.97 "	13.33 "
March	12.95 "	13.52 "
April	12.82 "	12.50 "
May	12.94 "	12.63 "
June	13.28 "	12.56 "
July	12.75 "	12.64 "
August	12.47 "	12.82 "
September	12.74 "	12.96 "
October	13.21 "	13.17 "
November	13.06 "	12.96 "
December	13.25 "	12.75 "

The supply comes from the surrounding towns, and one car a day from Wilton, N. H.

SWILL MILK.

Since the arrest and conviction of parties last year for feeding swill to milch cows there has been very little, if any, fed in this vicinity. The Inspector has been watchful of all places where it was fed, but has not found any indication of swill feeding.

VINEGAR.

The quality of vinegar sold in Lowell is fully up to the legal standard. There have been no complaints, and the samples analyzed have all been of good quality.

OLEOMARGARINE.

The sale of oleomargarine in the city is confined to three firms, who sell only in the original package of ten or more pounds.

BIOLOGICAL WORK.

In the early part of the year, apparatus was purchased for the determination of bacteria contained in milk, water, etc. Since that time a large number of samples have been examined for bacteria, with a view to making the milk supply more cleanly.

WATER.

The Inspector has analyzed during the year the following samples of water taken from wells in the different parts of the city, for the Board of Health.

WATER.

The Inspector has analyzed during the year the following samples of water taken from wells in different parts of the city, for the Board of Health.

IN PARTS IN 100,000.

NAME.	DATE.	APPEARANCE.		COLOR.	ODOR.		AMMONIA.		CHLOR.	NIT.	HARDNESS.	TEMP.
		TUR.	SED.		HOT.	COLD.	FREE.	ALB.				
N. W. Norcross.....	April 13,	0	0	0	Musty.	Musty.	.142	.0465	10.	6.	2.°	..
Central Block.....	" 22,	0	0	0	0	0	.0007	.0031	4.06	.000	6.5	..
Jerome Manning.....	May 1,	0	0	0	0	0	.0010	.0146	2.4	.012	5.8°	..
Boott Corp.....	" 10,	0	0	0	0	0	.0014	.0078	6.2	.010	6.°	51½
Mass. Corp.....	" 10,	0	0	0	0	0	.0000	.0010	1.3	.100	1.20	47
H. Sheldon.....	" 13,	0	0	0	0	0	.0016	.0074	4.2	.120	6.5	45½
Highland Club.....	" 13,	Con.	Slight.	0	0	0	.0040	.0064	2.4	.010	3.7	..
J. S. Grush.....	" 13,	0	0	0	Slight.	0	.0000	.0044	3.1	.110	5.4	45
Bleachery.....	" 17,	0	0	0	0	0	.0000	.0018	2.3	.087	4.8	50
Felting Mills.....	" 17,	0	0	0	0	0	.0016	.0232	3.2	.001	4.9	47
W. H. Parker.....	" 17,	0	0	0	0	0	.0002	.0068	2.9	.150	5.9	50
Mrs. Hosford.....	" 23,	0	0	0	0	0	.0284	.0075	1.9	.005	2.5	50
M. McKay.....	" 23,	0	0	0	0	0	.0000	.0059	6.5	.130	7.°	47
Mr. N. Starnes.....	" 24,	Milky.	Slight.	2	0	0	.0040	.0096	3.5	1.3	7.°	46
Woods, Sherwood & Co.	" 24,	0	0	0	0	0	.0000	.0014	2.3	.08	5.20	54
Mr. Everett.....	" 29,	0	Slight.	0	Slight.	0	.1830	.0100	10.0	....	....	..

Stromquist Avenue.

Edward Cawley	June 1,	0	0	0	0	0	0	0	.0030	.0050	3.3	.050	4.60	..	Rogers Street.
S. Baker.....	" 1,	0	0	0	0	0	0	Slight.	.0004	.0042	5.7	.100	5.50	48	19 South Highland Street.
A. L. Prescott.....	" 5,	0	0	0	0	0	0	0	.0030	.0084	1.8	1.500	4.2	50	52 Third Street.
O. H. Brigham.....	" 5,	0	0	0	0	0	0	0	.0000	.0032	1.9	.080	3.8	51	94 Third Street.
Geo. W. Harris.....	" 8,	0	0	0	0	0	0	0	.0004	.0044	2.4	.150	4.5	50	22 Perkins Street.
Mrs. Bartlett.....	" 8,	0	0	0	0	0	0	0	.0002	.0014	1.3	.800	2.4	47	Rear 2 Dodge Street.
Frank Ladd.....	" 29,	Heavy.	Heavy.	20	Slight.	Slight.	.0094	.0104	.0020	.0046	4.3	1.200	6.5	..	122 East Merrinack St.
Mrs. Stevens	July 12,	0	0	0	0	0	0	0	.0026	.0060	2.4	..	5.2	..	230 Gorham Street.
Mr. Adams.....	" 20,	0	0	0	0	0	0	0	.0076	.0234	4.8	.600	5.5	..	244 East Merrinack St.
Mrs. Hamblin.....	Aug. 9,	Slight.	Slight.	0	Heavy.	Slight.	.0084	.0144	.0084	.0144	8.8	..	..	..	Broadway.
W. H. Penn	" 15,	Slight.	Heavy.	0	Dis.	Slight.	.0084	.0144	.0084	.0144	2.0	.800	..	..	Spring Street.
W. H. Penn	" 15,	Slight.	Heavy.	0	Mouldy.	Mouldy.	.0084	.0144	.0084	.0144	2.0	.800	..	..	off Tanner Street.
S. H. Gannon	Sept. 11,	0	0	0	0	0	0	0	.0036	.0204	1.5	1.5	4.2	..	199 Stackpole Street.
Atherton Co.	" 18,	0	0	0	0	0	0	0	.0034	.0062	.62	.601	3.7	..	..

LABORATORY.

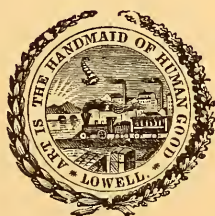
A new laboratory has been fitted up in the fourth story of the new City Hall. It contains most of the modern appliances for the chemical examinations of milk, vinegar, butter, water, and foods, as well as biological examinations of them. Any citizen of Lowell can have his milk, water, etc., examined free of charge, and many have availed themselves of this opportunity during the past year.

In conclusion, I desired to thank His Honor the Mayor, the Agent and members of the Board of Health for their assistance and encouragement in the discharge of my duties.

(Signed.)

THOS. O. ALLEN,
Inspector of Milk and Vinegar.

ANNUAL REPORT
OF THE
SUPERINTENDENT OF STREETS
OF THE
CITY OF LOWELL,
FOR THE YEAR 1893.



LOWELL, MASS.
DAILY NEWS JOB PRINT, HILDRETH BUILDING.
1894.

CITY OF LOWELL,

IN BOARD OF ALDERMEN, May 29, 1894.

Received and ordered on file. Sent down for concurrence.

MICHAEL J. DOWD, City Clerk.

IN COMMON COUNCIL, June 12, 1894.

Read and ordered on file, in concurrence.

FRANK J. SIMONDS, Clerk.

REPORT.

*To His Honor the Mayor, and Gentlemen of the City
Council of the City of Lowell :*

In accordance with the requirements of the city ordinances, I hereby most respectfully submit the following report of the departments under my charge viz: Roads and Bridges, Pawtucket Boulevard, Paving, Street Watering, and Sewers and Drains, for the year ending December 31, 1893.

ROADS AND BRIDGES.

GENERAL STATEMENT OF RECEIPTS AND EXPENDITURES.

RECEIPTS.

Balance on hand January 1, 1893.....	\$3,288 70
Appropriation	85,000 00
Loan	20,000 00
Transfer from Reserve Fund	5,000 00
Received for sidewalk assessments.....	8,681 51
Receipts from all other sources.....	12,488 06
Total receipts.....	<u>\$134,458 27</u>

EXPENDITURES.

Salary of Superintendent.....	2,000 00
Salary of City Engineer.....	2,700 00
Labor, as per pay rolls.....	86,737 14
Amount carried forward.....	<u>\$91,437 14</u>

<i>Amount brought forward</i>	\$91,437 14
Land damages, etc.....	6,670 89
Hay, grain, etc.....	8,774 42
Lumber, stone, brick, cement, etc.....	15,938 10
Horses, carriages, harnesses, etc.....	2,163 29
Hardware, tools, etc.....	1,458 53
Fuel.....	481 09
Sundries	5,724 34
Total expenditures.....	\$132,647 80
Balance on hand December 31, 1893.....	\$1,810 47

STREETS LAID OUT AND ACCEPTED IN 1893.

STREETS.	BETWEEN WHAT STREETS.	LENGTH IN FEET.
Ashland.....	Georgia Ave. and Sauders Ave.....	263.9
Clare	Broadway, Northerly.....	694.0
Corner ..	South Walker and Warwick.....	250.0
D.....	Powell and Wilder	1,630.5
Dartmouth	Westford and Princeton.....	381.5
Davenport, East...	Tyler Park, Easterly	284.2
Davenport, West...	Tyler Park and Pine.....	352.0
First	Portion formerly acc'd and Llewellyn	1,968.7
Foster.	Middlesex and Princeton.....	1,293.0
Georgia Avenue...	Tyler Park and Pine.....	693.4
Mansur	Wentworth Ave. and Butman Road	459.9
Meadowcroft.....	Washer, Southerly.....	215.4
Parkview Avenue.	Mansur and Hovey	933.0
Pembroke.....	Georgia Ave. and Sauders Ave.....	263.9
Plain	Chelmsford and Main.....	2,089.5
Princeton	Foster and Dartmouth	490.0
Sauders Avenue ..	Davenport Street, East, and Pine ..	719.9
Sargent	Wannalancit and Clare.....	116.5
Sayles	Westford and Princeton	382.0
Tyler Park	Westford and Westford	872.5
Varnum Avenue...	Portion formerly accepted and Paw- tucket Boulevard.....	6,917.5
		21,271.3
Deduct length of Varnum Avenue and Plain Street.....		9,007.0
Total.....		12,264.3
Number of miles of Accepted streets, Jan. 1, 1893		111.58
Number of miles of streets accepted in 1893.....		2.32
Number of miles of accepted streets, Jan. 1, 1894		113.90

SIDEWALKS.

STREETS.	BETWEEN WHAT STREETS.	LIN. FT. CORNER STONE.	LIN. FT. EDGE- STONE.	SQ. YDS. CON- CRETE.
A	South side, Powell and Puffer	9.8	1088.1	
Adams....	West side, Lagrange and Liberty square		307.0	
Albion....	West side, West Third and West Fourth.....	9.5	127.1	142.7
B.....	North side, Puffer and Wilder	36.9	513.0	
Bartlett...	North side, front of St. John's Hospital.....			174.2
Bassett. ..	East side, Whipple and Hudson.....		291.0	
Bellevue..	West side, from southerly line premises of Fred Horne to northerly line premises Jacob Murphy, and in front of premises Charles A. Wheeler		231.2	
Cedar.....	West side, Central and Keene			277.6
Corner....	South side, So. Walker and Warwick.....		246.7	153.3
Corner....	North side, So. Walker and Warwick.....		251.0	

SIDEWALKS.—CONTINUED.

STREETS.	BETWEEN WHAT STREETS.	LIN. FT. CORNER STONE.	LIN. FT. EDGE- STONE.	SQ. YDS. CON- CRETE.
Cross	South side, Shanahan's court and Fletcher		434.2	290.2
Fletcher ..	West side, from sidewalk al- ready laid to northerly line of premises of Mary Fitz- gerald		97.6	72.4
Gates	West side, Westford and Sheldon		826.6	
Hale	North side, from sidewalk formerly laid to Lincoln	28.9	994.7	
Hovey....	South side, Wentworth and Holyrood avenues	18.8	566.1	
Howard...	East side, in front premises of George E. Bryant and Mrs. Edward P. Sanborn			50.4
Livingston Avenue .	West side, front of premises of William H. Bent		114.0	79.6
Mammoth Road ...	West side, in front of prem- ises of Samuel Chapin...		175.8	
Marlboro'h	East side, in front of prem- ises of A. G. Walsh, E. A. Smith and W. H. Dorr; west side, in front of prem- ises of M. B. Stiles, G. J. Bradt and E. A. Smith...			272.4

SIDEWALKS.—CONTINUED.

STREETS.	BETWEEN WHAT STREETS.	LIN. FT. CORNER STONE.	LIN. FT. EDGE- STONE.	SQ. YDS. CON- CRETE.
Mason . . .	Both sides, Smith and Powell		279.5	
Mason . . .	North side, School and Hastings	9.9	380.1	236.3
Mason . . .	South side, Powell and School	19.3	269.9	
Meadowc'ft	East side, Moore and St. James	9.5	271.2	
Meadowc'ft	West side, Moore and R. R. Bridge		175.0	
Methuen . .	East side, Eleventh and northerly line of premises of John J. Harvey . . .	9.7	138.4	
Moody . . .	North side, Tremont and Hanover			176.8
*Newhall . .	Both sides, Crosby and Whipple	38.0	884.7	
*Parkview Avenue .	East side, Mansur and Hovey	19.9	934.5	
Pine	South side, in front of premises of Mary A. McIntire . . .		60.6	
Princeton .	Both sides, Stevens and Livingston avenue	19.6	209.6	488.1

*Unfinished.

SIDEWALKS.—CONTINUED.

STREETS.	BETWEEN WHAT STREETS.	LIN. FT. CORNER STONE.	LIN. FT. EDGE- STONE.	SQ. YDS. CON- CRETE.
School . . .	West side, in front of prem- ises of John F. Gallivan.		55.9	
Shaffer . . .	Both sides, Broadway and Walker	48.5	1089.2	
Ware	West side, Ralph and Shel- don	19.8	616.1	383.1
Warwick . .	Both sides, Liberty and Ma- son	59.6	1704 6	621.7
Watson . . .	North side, Lawrence and Whipple	9.5	377.2	232.9
Wentworth Avenue .	East side, Andover and Lau- rel		807.9	
West Bow- ers	South side, front of premises John D. Grant		40.0	24.4
Westford .	South side, front of prem- ises of Mrs. I. D. Gibson.	10.1	109.3	
West Third	Both sides, Bridge and Coburn			1127.2
Wilder . . .	West side, front of premises of D. Gage		68.9	44.4
Willie . . .	West side, Broadway north- erly to sidewalk formerly laid		98 5	72.3

SIDEWALKS.—CONTINUED.

STREETS.	BETWEEN WHAT STREETS.	LIN. FT.	LIN. FT.	SQ. YDS.
		CORNER STONE.	EDGE- STONE.	CON- CRETE.
Windsor ..	Both sides, Westford and Princeton	19.3	729.6	
Worthen ..	East side, Merrimack to sidewalk formerly laid...	4.5	232 0	131.2
	Total	401.1	15796 8	5051 2

STREETS GRADED.

STREETS.	STREETS.
A	Marginal
B	Middlesex
Beacon	Mason
Butterfield	Mt. Hope
Chelmsford	Newhall
Charles	New School
Clark	Plain
Cushing	Revere
Grand	Railroad
Hale	Royal
Howe	Riverside
Howard	Sheldon
Jackson	Shaffer
Knapp Avenue	Sargent
Lincoln	Shaw
Liberty	Stackpole
Leverett	School
Ludlam	Third
Methuen	Wentworth Avenue

STREETS GRADED.—CONCLUDED.

STREETS.	STREETS.
Windsor	Westford
West	West Sixth
Ware	

MACADAMIZING.

STREETS.	BETWEEN WHAT STREETS.	
Andover	Wentworth Ave to Tewksbury line	
Bartlett.....	Fayette to easterly line of High st.	
Cross	Suffolk to Fletcher.....	
Jefferson.....	Market to Lewis.	
West Sixth.....	Bridge to Hampshire.....	

COBBLE STONE GUTTER PAVING

STREETS.	SQ. FEET.
Chelmsford	5,000
Mansur	3,000
Porter....	240
Seventh Avenue	1,440
Whipple	175
Wyman.....	565
Total, 10,420 square feet or $1,157\frac{7}{9}$ square yards	

CONCRETE SIDEWALKS REPAIRED.

STREETS.	LOCATION.	SQ. YARDS
Appleton.....	North side, in front of premises No. 279	12.3
Beech	West side, in front of premises No. 36.	17.0
Bridge	West side, from West Fourth Street northerly	174.1
Central	East side, near Church Street.....	12.4
Central	East side, between Richmond and Mill Streets. (Brick sidewalk removed).	67.0
Cross	North side, at Common Street.....	9.3
Middlesex.....	North side, in front of Joel Knapp's machine shop	9.9
Oak	North side, near Fort Hill Avenue.....	21.4
Richmond.....	South side, at Central Street. (Brick sidewalk removed).....	67.8
School	East side, between Gold and Lombard.	26.7
Stackpole	South side, in front premises No. 172..	35.6
West Fourth ...	North side, from Bridge St. westerly..	31.7
	Total.....	485.2

SIDEWALKS TOP DRESSED.

STREETS.	LOCATION.	SQ. YARDS
Arlington	East side, in front premises No. 34....	37.1
Bridge.....	West side, between Central Bridge and Lakeview Avenue.....	64.2
Broadway	North side, between Suffolk and Marion Streets	175.2
Broadway	North side, between Marion and Adams Streets	116.5
Central	West side, in front of Opera House...	98.9
Coburn	East side, at West Third Street.....	16.7
Columbus Ave..	South side, near Walker Street.....	42.1
Fletcher.....	East side, between Dutton and Worthen Streets	37.8
Fletcher.....	East side, in front premises No. 531 ..	34.2
Howard.....	East side, in front premises No. 164 ..	46.9
Lakeview Ave..	North side, in front premises Nos. 101 and 27.....	62.6
Lawrence	West side, at Watson Street	3.6
Liberty	South side, at Warwick Street.....	9.0
Middlesex.....	North side, at Thorndike Street	28.4
Moody.....	North side, in front premises No. 467 .	31.1
Mt. Vernon	West side, in front premises No. 181..	43.4

SIDEWALKS TOP DRESSED.—CONTINUED.

STREETS.	LOCATION.	SQ. YARDS
Myrtle.....	West side, in front premises No. 100..	24.9
Princeton	North side, at Stevens Street.....	6.6
Rock	South side, in front premises No. 28...	26.7
Salem	North side, in front premises No. 115 to 129.....	92.8
School.....	East side, between Gold and Lombard Streets.....	47.7
Stackpole	South side, in front premises No. 172..	65.8
Stevens.....	West side, in front premises of Josiah Butler	51.9
Thorndike	East side, at Middlesex Street.....	32.9
West Sixth.....	North side, in front premises of E. P. Wood	113.9
	Total	1,310.9

CONCRETE CROSSINGS.

STREETS.	LOCATION.	SQ. YARDS
Albion.....	At North line West Third Street	40.1
Cambridge.....	At South line Hale Street	33.1
Chester	At South line Princeton Street.....	32.9
Edson.....	At South line Princeton Street.....	21.0
Fort Hill Ave...	At South line Porter Street.....	32.0
Hale.....	At East line Cambridge Street	27.0
Hanks	At North line Rogers Street.....	43.2
Harvard.....	At North line Princeton Street.....	33.3
June	At North line Twelfth Street.....	30.0
Nicolette.....	At East line Harvard Street	34.0
Princeton	At East line Chester Street.....	31.1
Princeton	At Edson Street	118.2
Princeton	At West line So. Canton Street	32.2
Sherman	At West line Fort Hill Avenue.....	32.2
Stevens	At South line Princeton Street	32.2
Stevens	At North line Princeton Street.....	31.8
Worthen	At North line Kitson Street	35.4
	Total	639.7

CONCRETE PAVING REPAIRED.

STREETS.		SQ. YARDS
Pawtucket	Hard Top Dressing	916.3

BRIDGES.

THE FOLLOWING IS A LIST OF BRIDGES IN THE ACCEPTED STREETS, AND BY WHOM MAINTAINED.

STREETS.	LOCATION.	MATERIAL.	MAINTAINED BY
Chelmsford.....	B. & M. R. R. Co. (Lowell system).....	Iron.....	Boston & Maine Railroad Co.
Hale	B. & M. R. R. Co. (Lowell system).....	Iron.....	Boston & Maine Railroad Co.
Wilder	B. & M. R. R. Co. (Lowell system).....	Wood	Boston & Maine Railroad Co.
Church.	Concord river.....	Stone.. ..	City.
Middlesex Vil'ge	Black brook.....	Stone.....	Ctty.
East Merrimack	Eastern canal.....	Wood	Locks and Canals Co.
East Merrimack	Concord river	Wood	City.
Lawrence	Concord river	Wood	City.
Rogers	Concord river	Stone.....	City.

BRIDGES.—CONTINUED.

STREETS	LOCATION.	MATERIAL.	MAINTAINED BY
Bridge.....	Eastern canal.....	Wood	Locks and Canals Co.
Market.....	Merrimack canal.....	Wood	City.
Merrimack	Merrimack canal.....	Stone and Brick.	Locks and Canals Co. and City.
Aiken.....	Merrimack river.....	Iron.....	City.
Bridge.....	Merrimack river.....	Iron.....	City.
School	Merrimack river.....	Iron	City.
Cabot.....	Northern canal.....	Wood	City.
Pawtucket.	Northern canal.....	Wood	Locks and Canals Co.
School	Northern canal.....	Brick and Stone.	Locks and Canals Co.
Suffolk	Northern canal.....	Wood	Locks and Canals Co.

BRIDGES.—CONTINUED.

STREETS	LOCATION.	MATERIAL.	MAINTAINED BY
Broadway	Pawtucket canal	Wood	Locks and Canals Co.
Central	Pawtucket canal	Wood	Locks and Canals Co.
Pawtucket	Pawtucket canal	Wood	Locks and Canals Co.
School	Pawtucket canal	Wood	Locks and Canals Co.
Thorndike	Pawtucket canal	Wood	Locks and Canals Co.
Cambridge	River Meadow brook	Wood	City.
Congress	River Meadow brook	Wood	City.
Gorham	River Meadow brook	Stone	City.
Howard	River Meadow brook	Wood	City.
Lawrence	River Meadow brook	Stone	City.

BRIDGES.—CONTINUED.

STREETS	LOCATION.	MATERIAL.	MAINTAINED BY
Lincoln	River Meadow brook.....	Wood	City. Built in 1889.
Newhall.....	River Meadow brook.....	Iron.....	City. Built in 1892.
Plain (2).....	River Meadow brook.....	Wood	City.
Broadway.....	Western canal.	Stone.....	City.
Dutton	Western canal.....	Wood	City.
Hall (Private St)	Western canal.....	Wood	Lawrence Manufacturing Co. and Tremont and Suffolk Mills.
Jefferson.....	Western canal.....	Iron.....	City. Built in 1891.
Market.....	Western canal.....	Wood	City.
Merrimack	Western canal.....	Wood	Locks and Canals Co. and City.
Moody.....	Western canal.....	Wood	City.

BRIDGES.—CONTINUED.

STREETS	LOCATION.	MATERIAL.	MAINTAINED BY
Worthen	Western canal.....	Wood	City.
Lawrence	Wamesit canal.....	Wood	Wamesit Power Co.

PERSONAL PROPERTY.

The following is a schedule of Personal Property, under my charge December 31, 1893, belonging to the Department of Roads and Bridges:

1 engine and tools (at crusher)..... \$ 500 00	11 single carts..... 440 00
1 stone crusher..... 650 00	8 driving wagons 625 00
1 blacksmith shop and tools (at ledge).... 150 00	1 hand cart..... 10 00
1 crusher building.... 300 00	2 stone trucks..... 150 00
Stock and tools in repair shop (at yard). 500 00	17 double sleds 765 00
1 iron road roller 75 00	4 driving sleighs 200 00
1 stone road roller ... 125 00	2 new sled bodies 30 00
3 street sweepers 400 00	2 snow plows..... 20 00
1 sprinkling cart..... 200 00	7 snow scrapers..... 28 00
2 road builders..... 300 00	40 horses 7,000 00
1 committee wagon, with runners..... 100 00	17 set double harness 765 00
2 lumber wagons..... 175 00	56 horse collars..... 112 00
4 wood wagons..... 200 00	50 halters.. 50 00
1 truck wagon 50 00	94 blankets..... 211 50
22 double carts..... 2,200 00	48 surcingles 15 36
	5 horse covers 10 00
	6 heavy robes..... 65 00

PERSONAL PROPERTY.—CONTINUED.

6 lap robes.....	15 00	7 wheelbarrows.....	7 00
2 carriage boots.....	3 00	1 hand derrick and rig- ging.....	50 00
2 fly nets	3 00	5 stoves.....	50 00
1 large platform scale	200 00	8 office chairs.....	20 00
1 small platform scale	12 00	1 office desk	5 00
1 row boat.....	10 00	3 coal hods.....	75
835 feet edge stone..	292 25	1 50-foot extension lad- der.....	10 00
54 feet circle stone ..	33 48	3 50-ft. tape measures.	3 00
214 feet flagging.....	96 30	10 tool chests.....	40 00
10 tons hay	200 00	11 heavy chains	22 00
2 tons straw.....	36 00	60 bundles broom stuff	3 00
8 feed baskets	6 00	2 electric batteries ...	40 00
2 blanket chests	10 00	5 spirit levels.....	7 50
60 curry combs, cards and brushes.....	36 00	3 clocks	7 00
2 hay cutters.....	12 00	3 iron rakes.....	90
21 lanterns.....	5 25	6 hay forks.....	3 00
3 doz. lantern globes..	2 25	3 manure forks	2 25
4 stone drays.....	20 00	9 stone forks	2 25
2 plows	10 00	14 crowbars	14 00

PERSONAL PROPERTY.—CONTINUED.

9 steel bars.....	9 00	12 hammer handles ..	1 50
14 snow shovels.. ...	7 00	13 snow plows.....	130 00
34 square shovels....	8 50	15 oil cans	7 50
85 pointed shovels ..	21 25	159 feet steel.....	75 00
7 long-handle shovels.	3 50	4 paving hammers ...	4 00
86 picks	64 50	2 wooden mauls... ..	2 50
40 hoes	10 00	3 squares	2 25
2 Adzes.....	2 00	4 blasting spoons	1 00
3 axes	1 80	6 striking hammers ..	9 60
42 pick handles.....	5 25	10 stone hammers....	20 00
1 scythe	1 50	3 frost hammers	6 00
1 set tackle and falls .	6 00	4 hand hammers.....	4 00
9 rattan brooms	4 50	32 steel points.....	9 60
3 steel brooms.....	2 25	20 hand drills.....	10 00
4 ice chisels.....	2 00	2 trowels.....	1 00
6 tamping bars	3 75	1 spreader.....	50
5 frost hammers	10 00	4 stone wedges	3 00
11 frost wedges.....	7 75	3 hand saws.....	2 25
4 mauls.....	12 00	1 hemp line.....	50
12 pails.....	6 00	1 rasp	25

PERSONAL PROPERTY.—CONTINUED.

3 monkey wrenches. .	1 50	1 set crusher shoes. .	15 70
25 exploders.....	93	1 keg spikes.....	3 00
1 coal stove	10 00	1,000 ft. oak plank..	50 00
1 box dualin.....	17 50	6 wheelbarrows	6 00
1 fire rake	1 00	2 1-horse sleds wood work	40 00
10 lbs. cotton waste..	1 00	1 15-ton steam] road roller.....	4,000 00
4 cold chisels.....	2 00		
7 S wrenches.....	3 50		
2 splice bars.	2 00	Total.....	\$22,310 92

PAVING DEPARTMENT.

GRANITE BLOCK PAVING.

The following is a report of the Financial Account, and also the work done by this Department the past year:

RECEIPTS:

Balance on hand January 1, 1893.....	\$	64	55
Loans.....		35,000	00
From Merrimack Manufacturing Co.		1,841	94
Receipts from various sources.....		8	75
			<u>\$36,915 24</u>

EXPENDITURES:

Labor as per pay roll.....	\$	7,109	34
Granite paving blocks.....		24,491	21
Sand		35	50
Sundries		3,731	22
			<u>35,367 27</u>
Balance on hand December 31, 1893.....			<u><u>\$1,547 97</u></u>

GRANITE PAVING.

STREETS.	BETWEEN WHAT STREETS.	SQ. YARDS
Adams.....	Broadway and Liberty Square.....	2713.5
Chelmsford.....	Railroad Bridge and Liberty Street ...	8399.3
Davidson	East Merrimack and Howe.....	1952.8
Lakeview Ave..	Westerly side, from a point 137 feet north of the second angle in said street to city line.	4165.3
Worthen.....	Merrimack and Market	749.5
	Total	17,980.4

STREET WATERING DEPARTMENT.

FINANCIAL ACCOUNT.

RECEIPTS:

Balance on hand January 1, 1893.....	\$6,467 77
Loan	8,000 00
Received for assessments of 1892.....	877 58
Received for assessments of 1893.....	6,782 80
Received for labor, teaming, etc.....	2,363 00
Received for all other sources.....	299 31
	\$24,790 46

EXPENDITURES:

Labor as per pay rolls.....	\$7,518 39
J. L. & H. Potter, street sprinkler carts....	1,905 00
C. H. Hanson & Co., horses.....	875 00
Charles Clapp, horses.....	1,300 00
Hay, grain, etc.	3,549 99
Sundries	2,232 61
	17,380 99

Balance on hand December 31, 1893. \$7,409 47

MEMORANDUM:

Total assessments for 1892.....	\$7,919 60
Collected in 1892.....	6,578 90
Balance due January 1, 1893.....	\$1,340 70
Collected in 1893.....	877 48
Balance due January 1, 1894.....	\$ 463 22
Total assessments for 1893.....	\$10,923 79
Collected in 1893.....	6,782 80
Balance due January 1, 1894.....	4,140 99
Total amount uncollected January 1, 1894.....	<u>\$4,604 21</u>

PERSONAL PROPERTY.

The following is a schedule of personal property under my charge December 31, 1893, belonging to the department of Street Watering:

17 pair double harness \$ 765 00	1 manure fork..... 75
19 blankets 42 75	10 pails..... 2 50
11 surcingles..... 3 52	1 ton hay 17 50
16 halters..... 16 00	1 ton straw 20 00
34 collars 68 00	10 bushels oats 4 60
24 whiffletrees..... 18 00	30 bundles broom stuff 1 80
12 sprinkling carts... 2,670 00	1 cart jack 5 00
5 old tubs..... 250 00	1 lantern..... 50
5 hay forks 2 50	1 iron rake..... 50
5 double carts 500 00	1 hoe..... 25
27 horses 5,400 00	1 scraper..... 50
12 mane brushes..... 4 00	2 shovels..... 1 00
12 horse brushes..... 18 00	2 straw collars..... 2 00
15 curry combs..... 3 75	1 4-quart measure.... 75
9 cards 90	4 bushels corn..... 2 50
4 feed bags 4 00	
1 pipe wrench..... 2 00	
	Total \$9,818 57

PAWTUCKET BOULEVARD

FINANCES.

RECEIPTS:

Balance on hand January 1, 1893.....	\$ 694 55	
Loan	9,900 00	
Transfer.....	30 15	
Receipts.....	12 37	
		\$10,637 07

EXPENDITURES:

Labor as per pay rolls	\$7,009 84	
Teaming, material, etc.....	3,627 23	
		10,637 07

PERSONAL PROPERTY.

The following is a schedule of personal property under my charge December 31, 1893, belonging to the appropriation for Pawtucket Boulevard:

2 chain tongs.....	\$ 8 00	1 monkey-wrench	50
3 crowbars	3 00	5 lawn mowers	35 00
7 sickles.....	1 75	2 oil cans	1 00
4 dippers..	40	5 water pails.....	2 50
60 feet garden hose...	3 00	3 picks	1 80
70 feet rope.....	1 25	1 plow.....	5 00
12 feet $\frac{3}{4}$ -inch steel...	3 60	1 pump	10 00
20 feet 2-inch pipe ...	1 50	2 hand-saws.....	1 50
1 grass shears	2 50	4 scythes....	6 00
125 grass signs.....	28 75	34 shovels	14 10
1 grindstone.....	6 00	4 sod cutters	2 00
2 hammers	2 00	3 spades.....	1 50
22 hoes.....	5 50	1 spreader	1 25
20 iron rakes.....	6 00	5 sprinkling cans	5 00
2 lanterns.....	70	1 50-ft. tape measure .	1 00
3 spirit levels	4 50	1 tool chest.	5 00
8 mallets	3 20	4 wheelbarrows.....	4 00

PERSONAL PROPERTY.—CONTINUED.

2 whiffletrees	1 50	1 sprinkling cart	400 00
9 wooden rakes	2 25	1 wagon shed and tool house	150 00
5 oil cans	1 25		
1 2-inch valve	2 50	Total	\$741 30
1 4-inch watergate . . .	5 00		

SEWERS AND DRAINS.

FINANCES.

RECEIPTS :

Appropriation	\$20,000 00	
Loan	90,000 00	
Receipts from various sources	8,500 99	
		\$118,500 99

EXPENDITURES :

Labor as per pay rolls.	\$82,282 40	
Teaming, material, etc.	23,787 99	
Balance	12,430 60	
		\$118,500 99

PERSONAL PROPERTY.

The following is a schedule of Personal Property, under my charge December 31, 1893, belonging to the Department of Sewers and Drains:

285 picks	\$ 213 75	1 gal. Turpentine.....	1 00
200 handles	30 00	4 hand saws.....	3 00
400 shovels	160 00	100 exploders.....	3 75
3 long-handle shovels.	1 50	7 drilling spoons.....	1 75
16 crowbars	16 00	12 tag ropes.....	6 00
7 frost hammers	14 00	6 spanners	3 00
42 striking hammers .	63 00	41 lanterns.....	10 25
5 claw-hammers.....	2 50	5 pumps and fixtures.	100 00
4 hatchets	2 00	2 trowels	1 00
12 tool chests.....	48 00	2 reducers.....	3 00
8 jacks.	24 00	4 chains	8 00
20,000 feet lumber ...	300 00	3 levers and chains...	15 00
1 dutchman	6 00	5 barrels cement.....	6 50
2 water pails and dip- pers	1 25	175 feet small hose...	8 75
9 dipper handles.....	2 25	16 cement pails.....	4 00
8 maul handles.....	2 00	45 globes	5 00
10 hammer handles ..	1 25	3 chain slings	3 00

PERSONAL PROPERTY.—CONTINUED.

4 brass locks and keys	2 50	2 steam derricks and rigging	300 00
1 tamper.....	25	2 submerged pumps..	300 00
1 squirt gun	50	2 pile-driving frames.	25 00
1 doz. wedges	3 00	4 electric batteries ..	80 00
2 measuring sticks ...	1 00	400 ft. hydrant hose..	12 00
620 feet steel.....	300 00	2 rubber diaphragms .	4 00
9 set shear poles.....	90 00	4 horses	700 00
4 crabs	50 00	1 wagon	100 00
12 mauls.....	12 00	3 carts.....	150 00
6 wooden mauls.....	4 50	7 sleds.....	80 00
8 wheelbarrows.....	8 00	1 set edgestone castings	20 00
4 axes	2 00	4 single harnesses....	100 00
5 levels	3 75	1 oil can	50
10 sledge-hammers ...	10 00	2 large wedges.....	1 50
4 hydrant wrenches ..	4 00	2 cross-cut saws.....	2 00
28 pails	7 00	10 hoes	2 50
3 batteries	60 00	6 falls	45 00
1 Hoadley engine....	400 00		
1 Webb-Watson engine.....	1,000 00	Total.....	\$7,951 50

CENTRALVILLE MAIN SEWER.

Loan	\$40,000 00
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EXPENDITURES :

Labor, as per pay rolls	\$19,333 44
Lumber	1,036 60
Brick, cement, etc.	2,178 28
Sundries	1,054 47
	\$23,602 79
Balance on hand December 31, 1893	\$16,397 21

TABLE SHOWING THE SEWERS BUILT DURING 1883, LENGTH, SIZE, MATERIAL, WHEN BEGUN AND FINISHED, AND COST.

STREETS.	SIZE AND LENGTH.			MATERIALS.	Cubic Yards Ledge.	Average Depth.	Man Holes.	BEGUN.	FINISHED.	COST.	Total Length.
	18 inch.	15 inch.	10 inch. in.								
A and Wilder..			998.5	Portland Pipe.	.....	10.6	5	July 24, 1893.	Aug. 28, 1893.	\$2,205.84	998.5
Blossom			490	Portland Pipe.	.....	9.3	2	May 18, " "	May 26, " "	403.17	490
Bellevue			231.2	Portland Pipe.	.....	8.3	1	Sept. 28, " "	Unfinished	862.48	231.2
Burnside			332.8	Portland Pipe.	.....	4.1	1	Nov. 15, 1893.	Nov. 15, 1893.	378.38	352.8
Canada			638.3	Akron Pipe.	.....	10.2	3	May 16, " "	June 7, " "	1,441.02	638.3
Chelmsford 1200 ft. 54 in. Brick. 1266 ft. 36 in. Brick				Brick.	1743	19.2	10	July 6, " "	Unfinished	53,821.62	2,466
Chelmsford	140.5			Portland Pipe.	.....	11.9	1	Dec. 6, " "	Dec. 16, " "	461.93	140.5
City Hall Avenue. (Relaid)			942.7	Portland Pipe.	18	10.4	5	Aug. 28, " "	Sept. 19, " "	1,865.68	942.7
Centralville, Man. 1031 ft. 48 in. Brick		99		Portland Pipe.	.....	15	1	Sept. 8, " "	Sept. 19, " "	609.62	99
Eight Avenue			300.5	Brick.	812	10.3	3	Oct. 10, " "	Unfinished ...	23,605.99	1,031
Foster, Princeton, Sayles and Westford.	405	1184		Portland Pipe.	545	12.2	2	July 28, " "	Aug. 17, 1893.	874.25	300.5
Hovey			356.5	Portland Pipe.	.....	9.6	1	Oct. 26, " "	Unfinished	8,508.70	1,589
Hall, Tucker and Cheever			612.9	Portland Pipe.	.....	12.1	2	June 29, " "	July 22, 1893.	4,255.52	356.5
London			575.3	Portland Pipe.	.....	11.5	7	Sept. 19, " "	Oct. 23, " "	2,577.59	1,188.2
Lincoln			451	Portland Pipe.	.....	9.4	2	May 25, " "	June 7, " "	438.80	451
Livingston Avenue			492.3	Portland Pipe.	139	9.3	6	June 9, " "	July 10, " "	605.37	492.3
Lincoln			1278	Portland Pipe.	.....	10.2	3	June 8, " "	July 27, " "	3,188.14	1,278
Lincoln			763.6	Portland Pipe.	.....	11.8	3	Aug. 18, " "	Sept. 7, " "	1,188.54	763.6
Maple and West, (finished), 477 4 ft. 32 x 48 in. Brick.		204.6		Brick.	.....	14.6	8	Sept. 8, 1892.	Mar. 14, 1893.	8,020.53	916
Middlesex			123.7	Portland Pipe.	.....	11.4	1	June 27, 1893.	July 1, " "	226.98	123.7
*Perry			360	Portland Pipe.	.....	15.6	2	Jan. 2, " "	Jan. 21, " "	.....	360
Phillips			163.3	Portland Pipe.	25	11.4	1	June 12, " "	June 19, " "	329.51	163.3
Shaffer. 1174 ft. 8 in. Akron Pipe. ....				.....	.....	6.3	1	May 16, " "	May 18, " "	103.87	117.4
Sheldon and Gates			256.6	Portland Pipe.	13	10.1	2	Sept. 19, " "	Sept. 28, " "	703.26	511.6
Swan Avenue			243.8	Portland Pipe.	110	9.3	2	Oct. 24, " "	Dec. 6, " "	1,187.72	243.8
Walden			287	Portland Pipe.	.....	9.5	2	June 20, " "	June 27, " "	412.78	287

Lineal feet of Sewers laid in 1893.....	16,531.9 feet or 3.13 miles.
Laid previously.....	61.42 "
Length of Sewers January 1, 1894.....	64 55 miles
NOTE.—Of the above-named sewers which appear in the Superintendent's report for 1892, the length and cost therein specified, added to the length and cost in 1893, will give the total length and cost, as given below :	
Maple and West Streets.....	Total length, 1,608 feet.....
	Total cost, \$20,049.48.

*Built by White Bros.

In Middlesex Street, 1,098 feet of surface drains were laid, as follows : 396.5 feet of 8-inch pipe, 521.5 feet of 10-inch pipe, and 178 feet of 12-inch pipe,

STREET CATCH BASINS BUILT DURING THE YEAR 1893.

STREETS.	LOCATION.
Aiken.....	West side, 12 ft. south of south line Hall Street.
Aiken.....	East side, 14 ft. south of south line Hall Street.
Aiken Avenue	West side, 4 ft. north of north line West Sixth Street.
Andrews	West side, 41 ft. south of south line Bourne Street.
Cheever.....	North side, 11 ft. west of west line Tucker Street.
Central (rebuilt) ..	East side, 116 ft. north of north line Warren Street.
Concord.....	East side, 504 ft. north of north line Sherman Street.
Corner	South side, 8 ft. west of west line South Walker street.
Chambers	North side, 2 ft. east of east line Newhall Street.
Chelmsford	West side, 8 ft. south of south line A Street.
Chelmsford.....	West side, 20 ft. south of south line Waite Street.
Chelmsford.....	West side, 7 ft. south of south line New Fletcher Street.

STREET CATCH BASINS BUILT.—CONTINUED.

STREETS.	LOCATION.
Fayette	West side, 3 ft. north of north line East Merri- mack Street.
Gates	West side, 304 ft. south of south line Westford Street.
High	East side, 3 ft. south of south line Oak Street.
High	West side, 6 ft. north of north line Oak Street.
Harvard.....	East side, 13 feet south of south line Middlesex street.
Harvard.....	West side, 16 ft. south of south line Middlesex street.
Howard	East side, 7 ft. north of north line Hale Street.
Howard	West side, 4 ft. north of north line Hale Street.
Hale	South side, 17 ft. east of east line Howard Street.
Hale	South side, 50 ft. west of west line Howard Street.
Livingston Avenue	East side, 16 ft. south of south line Middlesex Street.
Livingston Avenue	West side, 17 ft. south of south line Middlesex Street.
Lakeview Avenue.	South side, 4 ft. east of east line Richardson Avenue.

STREET CATCH BASINS BUILT.—CONTINUED.

STREETS.	LOCATION.
Leverett.....	West side, 11 ft. west of east line Leverett Street
Moody	East side, 53 feet south of south line Tremont Street.
Moody	East side, 15 ft. north of north line Tremont Street.
Moore.....	South side, 86 ft. east of east line Gorham Street.
Middlesex	North side, 25 ft. west of east line Harvard Street.
Middlesex	North side, 127 ft. west of west line Livingston Street.
Middlesex	South side, 7 ft. east of east line Foster Street.
Middlesex	North side, 60 ft. east of east line Sayles Street.
Middlesex	South side, 6 ft. east of east line Sayles Street.
Middlesex	North side, 180 ft. west of west line Sayles Street.
Middlesex	South side, 10 ft. west of west line Burnside Street.
Middlesex	South side, 216 ft. west of west line Burnside Street.

STREET CATCH BASINS BUILT.—CONTINUED.

STREETS.	LOCATION.
Middlesex	South side, 464 ft. west of west line Burnside Street.
Middlesex	North side, 24 ft. west of west abutment bridge at Black Brook
Middlesex	North side, 200 ft west of west abutment bridge at Black Brook.
Middlesex	North side, 456 ft. west of west abutment bridge at Black Brook.
Middlesex	North side, 645 ft. west of west abutment bridge at Black Brook.
Marlborough	East side. 18 ft. south of south line Westford Street.
Marlborough	West side, 185 ft. south of south line Westford Street.
Pleasant.....	East side, 10 ft. north of north line Sherman Street.
Perry (cesspool) ..	West side, 5 ft. south of south line Rogers Street.
Perry (cesspool) ..	West side, 331 ft. south of south line Rogers Street.
Perry	East side, 609 ft. north of north line Sherman Street.
Royal	East side, 5 ft. north of north line Sheldon Street.

STREET CATCH BASINS BUILT.—CONTINUED.

STREETS.	LOCATION.
School	East side, 6 ft. north of north line Shaw Street.
School	West side, 139 ft. south of south line Middlesex Street.
Shaw	North side, 8 ft. east of east line So. Hastings Street.
South Hastings . . .	West side, 14 ft. north of north line Shaw Street.
Tilden	North side, 300 ft. north of north line Moody Street.
Tremont.	South side, 300 ft. north of north line Moody Street.
Tucker	West side, 4 ft. south of south line Hall Street.
Tucker	East side, 6 ft. south of south line Hall Street.
Thorndike	West side, 21 ft. north of north line Livingston's mill.
Thorndike (cessp'l)	West side, 32 ft. south of south line Western Avenue.

REMARKS.

In submitting my second annual report, I desire to add such recommendations as in my opinion would be of value and advantageous to the city's interest.

STREETS.

My experience makes me more impressed with my former opinion recommending paving instead of macadam, especially on streets where street car tracks are, and more so where double tracks are laid. Streets like Westford street are so narrow that teams are obliged to travel in one channel, and in consequence ruts are made on each side of the street, and the result is, nothing short of granite block paving can stand the wear and tear, and it is a waste of money to keep macadam or concrete in repair on those streets, and should of necessity be paved, and while we have paved Chelmsford street to Hale street. we hope to continue the same to Plain street. Also Lawrence street, from Wamesit canal to Moore street. Appleton street should be paved. Gorham street, from the tracks of the Boston and Maine Railroad Company to the cemeteries, after the sewer is built, and many others where heavy trucking is done. The material for building gravel roads is not of a very good quality and is continually wearing out.

Macadam will do well enough on side streets where only light travel is done, but would recommend \$50,000 a year for a number of years to come in order to place our main streets on a good, permanent condition.

BRIDGES.

The bridges, with the exception of the Cabot street, Lawrence street and East Merrimack street bridges are in a fair condition. As the contracts has been let to rebuild the East Merrimack bridge the present year will find a substantial structure completed. The walks on Central bridge need replacing. A new bridge has been completed over River Meadow Brook on Plain street. Cabot street bridge must be replaced very soon, and would recommend an iron bridge at this point, as there is quite a large amount of travel and is constantly increasing.

STREET WATERING.

This new departure meets with general satisfaction. Five new routes and carts were added during the year, and more are needed to meet the demands, as our macadam and gravel roads need it more than other places, as when they are dry they are dusty. The plant for this department is only in temporary quarters, the thirty-four horses

are stalled in sheds, and the carts are in the open air, exposed to the rain and snow, and a new stable should be added to the present one, as the department has come to stay.

STREET NUMBERING.

Our city has just undergone a very much needed change in the re-numbering of the streets. The former condition was one with many duplicate numbers on the same street, and his Honor the Mayor is entitled to much credit for the interest manifested, and by furnishing the means to accomplish it. I would recommend that action be taken doing away with duplicates names of streets and also names of a great similarity.

SIDEWALKS.

There was a large amount of edgestones laid this season, and the quality furnished was very good. The contract was awarded to H. E. Fletcher & Co., of West Chelmsford. The new walks were built of concrete or cinders, and no brick sidewalks were constructed except in replacing or repairing old ones.

PAWTUCKET BOULEVARD.

This beautiful, and it might be said the only driveway in Lowell, is being rapidly put into proper shape and nearing completion, and a couple of years' work will practically complete it, so that only a small amount of money will be necessary to keep the walks and lawns in good condition. The river bank wall will probably be completed this year. There should be some drinking fountains for man and beast and some seats for the weary.

A plan has been submitted for the setting out of some shrubbery, which if carried out, would greatly improve the general appearance of the Boulevard.

SEWERS.

Many sewers have been built, and many more started and are at present under construction. Some of them have been asked for and necessary for years. The Chelmsford Street sewer will drain the institutions at the City Farm and also the side streets leading off Chelmsford Street. The Centralville main sewer will be a much needed improvement in a section of the city which was without drainage, and was very badly needed. The Foster Street sewer will drain a territory in the neighborhood of Tyler Park.

The above named sewers are a much needed improvement and a public benefit, and also came as a blessing for a large number of citizens in these panicky times and large sums of money were generously appropriated by the city government for that purpose.

By referring to the table accompanying this report it can be seen that many of the sewers were very hard to construct on account of the unusual amount of ledge encountered. Although the Chelmsford Street sewer is not completed, 1,743 cubic yards of ledge were removed. On Centralville sewer 812 cubic yards, and in Foster Street 545 cubic yards. The most difficult portions of the above named sewers have been overcome and the remaining portions can be more easily finished.

CONCLUSION.

In conclusion I wish to return my sincere thanks to His Honor the Mayor and members of the City Council for their assistance and approval, especially to the City Engineer and his assistants, and the Committees on Streets and Sewers for their ready assistance and advice. The relations with the heads of the different departments have been most pleasant and agreeable. I also want to say a word of praise to my assistants, foremen, and other

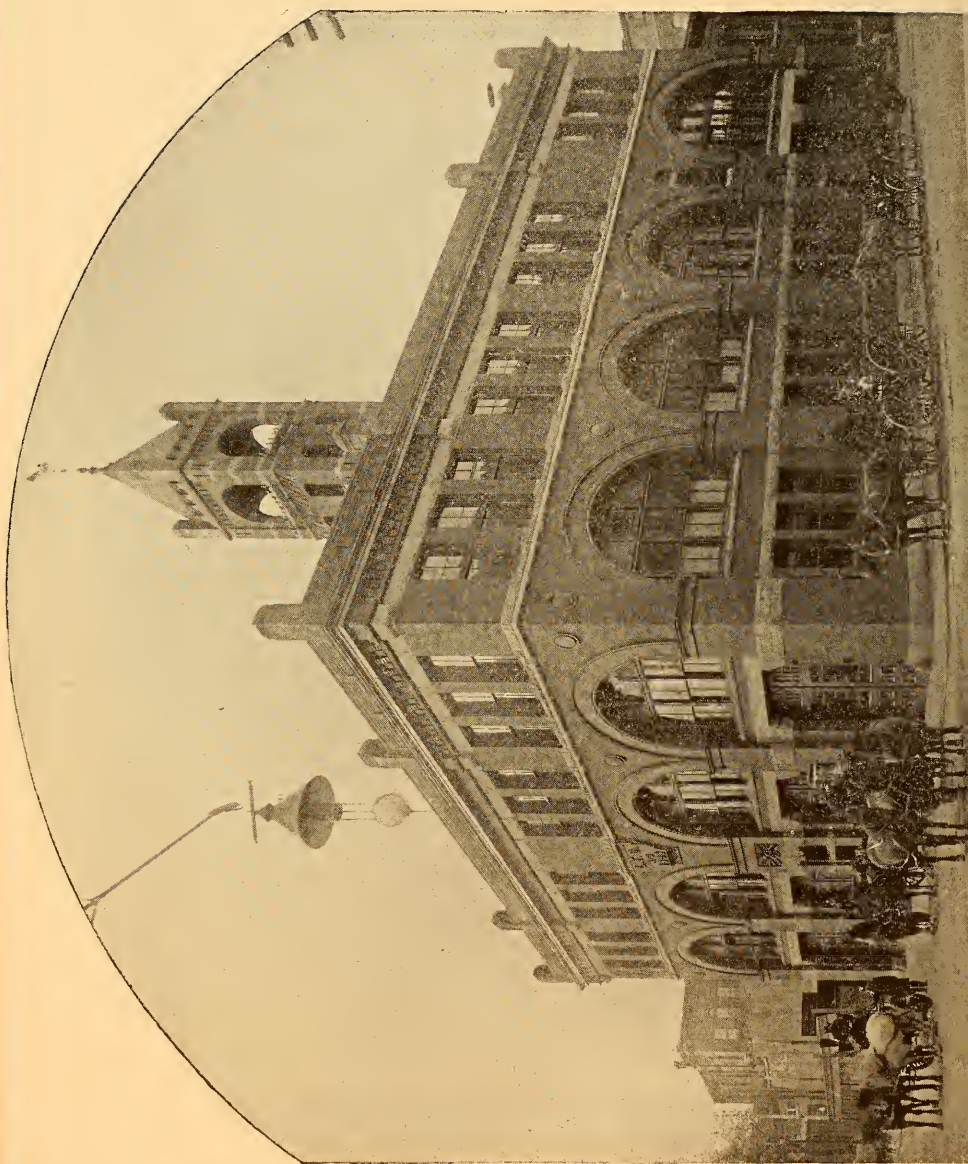
employes of the different departments for their co-operation for the city's best interests.

Most respectfully submitted,

ROBERT E. CROWLEY,

Superintendent of Streets.

LOWELL CENTRAL FIRE STATION.



By Courtesy of the CITIZEN NEWSPAPER COMPANY

ANNUAL REPORT

OF THE

CHIEF ENGINEER

OF THE

FIRE DEPARTMENT,

OF THE

CITY OF LOWELL,

FOR THE YEAR 1893.



LOWELL, MASS.

DAILY NEWS JOB PRINT, HILDRETH BUILDING

1894.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, January 16, 1894.

Received and ordered on file; sent down for concurrence.

MICHAEL J. DOWD, City Clerk

IN COMMON COUNCIL, January 23, 1894.

Received and ordered on file, in concurrence.

FRANK J. SIMONDS, Clerk.

REPORT.

CHIEF'S OFFICE, PALMER STREET ENGINE HOUSE,
LOWELL, January 1st, 1894.

To the City Council of the City of Lowell:

GENTLEMEN:— In accordance with the requirements governing the Fire Department, it becomes my duty as Chief Engineer, to present to you the annual report of the Fire Department of the City of Lowell, for the year ending December 31, 1893.

The report will be found to contain statements in detail, embracing the amount of expenditures, a register of the department, with the age, residence and occupation of each member, a record of all fires and alarms which have occurred during the year and the cause thereof, with the names of the owners and occupants, the loss and insurance, as nearly as could be ascertained, with the number and location of the fire alarm boxes; also an inventory of all property of the department, in charge

of the several companies, and such information as is thought proper for your consideration.

The following statement will show the receipts and expenditures.

RECEIPTS.

Balance undrawn, January 1, 1893....	\$	1,949	55	
Appropriation		110,000	00	
Loan.....		29,000	00	
Received from other sources.....		1,650	58	
				\$142,600 13

EXPENDITURES.

Pay Roll	\$97,434	24	
Water Works, for hydrants, etc.....	11,437	46	
Water Tower.....	4,500	00	
Planer and Saw.....	192	15	
Ladders	373	50	
New hose, pipes and repairs.....	1,897	64	
Electric Light Co., for power.....	60	00	
Watering Streets, for assessments.....	32	28	
Telephone Rental, etc.....	630	96	
Express	57	07	
New Horses, Exchange and Use of Horses	813	44	
Horse Shoeing.....	1,361	62	
Veterinary and Medicines.....	355	49	
Hay, Straw and Grain.....	7,329	67	
Harnesses, Whips, Blankets, etc.....	399	41	
Laundry	193	04	
Beds and Furniture.....	658	59	
Wood and Coal.....	2,238	46	
Repairs and Apparatus.....	3,397	87	
Repairs of Houses.....	749	44	
Oil, Sponges, Brooms, Soap, etc.....	1,674	24	
<i>Amounts carried forward.....</i>	<i>\$135,786</i>	<i>57</i>	<i>\$142,600 13</i>

<i>Amounts brought forward</i>	\$135,786 57	\$142,600 13
Gas.....	1,453 12	
Cloth, Buttons, Badges, etc.....	837 77	
Fire Alarm Expenses.....	2,281 56	
Chemicals.....	174 45	
Repairing Boilers.....	171 00	
Printing	212 40	
New Oat Cleaners.....	350 00	
Clipper	75 00	
Incidentals... ..	477 08	
		\$141,818 95
Balance undrawn, December 31, 1893.....	...	\$781 18

SALARIES OF MEMBERS OF FIRE DEPARTMENT.

Chief Engineer.....	\$2,000 00	per annum.
First Assistant Engineer.....	500 00	“ “
Other Assistant Engineers.....	400 00	“ “
Secretary of the Board.....	25 00	“ “
Foremen of Companies (call).....	225 00	“ “
Call Men.....	200 00	“ “
Permanent Men.....	2 75	per day.
Foremen of Companies (permanent)	3 00	“ “

The Department is divided into two classes—Permanent and Call. The permanent force consists of

1 Chief Engineer,	24 Drivers,
1 Fire Alarm Operator,	13 Laddermen,
24 Hosemen,	6 Engineers of Steamers.
4 Patrolmen,	1 Driver for Chief.

A total of 74, of which 14 are Foremen and 11 Assistant Foremen.

The Call Force consists of

4 Assistant Engineers,	70 Hosemen,
27 Laddermen.	

A total of 101, of which 2 are Foremen and 5 Assistant Foremen.

This makes a total of 175, an increase of 3 during the year 1893, divided into companies, as follows:

6 Steam Fire Engine Companies, with Hose Reels,
5 Horse Hose Companies,
4 Hook and Ladder Companies, with 2 Chemicals attached,
1 Patrol Company.

The changes in the force during the year have been as follows:

Deaths	1
Appointed on Call Force.....	7
Transferred from Call to Permanent.....	2
Discharged.....	3
Transferred	1

The apparatus is kept in the best possible condition, and consists at present of six Engines, four two-horse Reels, six one-horse and one two-horse Hose wagons, one Babcock Aerial and three trucks of other patterns, two Chemical Engines, one Hale Water Tower, sixteen Fire Extinguishers, one Patrol Wagon and Sleigh fully equipped, six

Hose Pungs on runners, seven Fuel Wagons, three Wagons and one Sleigh for use on Fire Alarm, one Wagon and Sleigh for Chief's use. In reserve there are one two-horse and one one-horse Hose Reels.

The only addition to the Department has been the purchase of a Hale Water Tower, which should have better quarters than at present. It is stored in the stable of Engine 4 on High Street, and in case it is needed, it will take some time to get it into service. While we have had no occasion for its use during the past year, yet there were a number of fires, which, if they had gained a better start, would surely have called for the services of the Tower, and for that reason I believe it should be located where it can be reached more quickly. I would recommend that a house be built on the City Lot on Middle Street for its reception.

FIRE-ALARM.

This branch of the service has been maintained in most excellent condition by the Operator, Mr. George B. Whitney, and has given perfect alarms the past year.

There have been one hundred and fifty-six alarms given from signal boxes; and No-School has been given ten times the past year.

Eight new boxes have been placed in circuit the past year, numbered and located as follows:

- 126—Mt. Washington Street, corner Varney,
- 127—Mammoth Road, corner Woodward Avenue,
- 139—Adams Street, corner Cross,
- 148—Hood's Laboratory (private)
- 145—Middlesex Street, corner School,
- 182—Chelmsford Street, corner Westford,
- 235—White's Tannery (private)
- 249—East Merrimack Street, corner Stackpole.

Connected with the circuit there is one ten-circuit non-interfering repeater, one ten-circuit cut out and testing switch board, eleven galvanometers, ten bell strikers, fifteen large gongs for Engine Houses, eighteen small gongs, seventeen indicators, one line tester, sixteen electro-magnets and connection for opening small doors, twenty-three electric light current protectors, ninety-five public and five private signal boxes, ninety-three miles of wire, the whole supplied by a gravity battery of four hundred cups. There is also one large gong and indicator combined, in the Police Station, one large gong in the Pumping Station, two large gongs, one in Merrimack Square and one at Tower's Corner, which have been placed in circuit the past year.

TELEPHONE.

There are connected with this system eighteen stations, consisting of transmitter, telephone,

bell and battery; there are also twenty-two extension bells for the sleeping rooms of the Engine Houses, and about forty miles of wire owned by the city and under the care of the Fire Alarm Operator, except the transmitters and telephones, which are leased from the Telephone Company.

HORSES AND HARNESSES.

There are sixty horses in the service of the Department, eleven of which belong to the Street Watering Department, and are used in bad weather by the Fire Department for their keeping. The horses now are in good condition, but the service required of them by the enforced idleness that they are compelled to endure, and when called upon to respond to alarms, is calculated to soon break them down and render them unfit for use in this Department. There are twelve sets of double, ten sets of three-horse hitch and four single swinging harnesses of the Berry and Hale patents.

HYDRANTS.

During the year forty-two new post hydrants have been added making a total of nine hundred and thirty-eight, for which this Department is charged twelve dollars each annually.

The hydrants added are located as follows: Chase, Gibson, Perry and Rock Streets, two each, Aiken, B, Bellevue, Campaw, Chelmsford, Chippewa, Dartmouth, Davenport, Gorham, Hudson, Jenness, Lawrence. Parker, Payton, Pine, Saratoga, Stackpole, Stevens, Tanner, Thorndike, Vernon, Ward and William Streets, Fifth, Georgianna, Lilley, Nelson Avenues, Shaw Hosiery, and White Brothers' Tannery one each.

The location of five of these were changed, one from East Merrimack to Stackpole Street, one from the west to the south side of Perry Street, one from the East to the West side of Lawrence Street, one from the East side of George Street to William Street, and one from the West to the East side of Ward Street.

PROTECTIVE DEPARTMENT.

This department is maintained by the city, and consists of five permanent men. This company has again demonstrated its usefulness in saving property from damage at fires, and has been of great assistance in subduing small fires with its extinguishers during the past year. It has spread three hundred and sixty-three covers, and has used one hundred and eighty-six extinguishers the past year.

Chemical Engine C, attached to Truck 2, used 40 tanks. Chemical Engine B, attached to Truck 3, used 56 tanks.

HOUSES.

The houses of the department are in very good repair, and having been improved from year to year, they are provided with every requisite for the comfort and convenience of the men, and ample accommodations for horses and apparatus. The inside of the Palmer Street Engine House needs painting, as the walls were left unfinished until the building should settle.

FIRES AND LOSSES.

The whole number of fires that occurred during the year ending December 31, 1893, was three hundred and nine. One hundred and fifty-six were given from signal boxes, forty by telephone, one hundred and nine still alarms, and four automatic, to every one of which some part of the department has responded.

There has been an increase of ten alarms over last year. The whole amount of losses, as near as could be ascertained, was \$91,547.26; the amount of insurance was \$537,990.00; the amount

of insurance paid was \$87,402.26; making the net amount of loss above insurance \$4,145.00. This is the largest number of alarms of any year that I have been connected with the department. There have been also a number of small fires extinguished by the Police Force and other citizens where the department was not called.

In my last report the case of E. Laurencelle for incendiarism, was bound over for trial. He was convicted and sentenced to eighteen months imprisonment, which was a very light sentence considering the trouble and expense it takes to capture and convict an incendiary. We have had one fire the past year that no doubt was incendiary. An investigation was had, but the man most interested has left for parts unknown. There have been five fires supposed to have been accidentally set by tramps, as that class of people occupy the premises mostly. I hardly think they would want to burn up places that gave them a good chance to rest, except by accident. There have been a number of suspicious fires, but not enough evidence could be secured to call for an investigation. Seven alarms have been given for fires out of the city,—one in Boston, one in North Tewksbury, two in Chelmsford and three in Dracut,—to all of which some part of the department responded. A large number of needless alarms were given the past year. Four false alarms were given. A young man that pulled

one or more of them was caught and fined twenty (\$20) dollars. There have been none rung in since. There have been two second alarms, and a number where a telephone and a bell alarm has been given for the same fire. The prompt action in giving alarms and the activity with which the members of the department have responded has stopped a number of threatening fires. The only fire that started in for a conflagration occurred September 30, at 10.56 P. M. second alarm rung in at 11.10. It caught in a stable owned by O. A. Simpson and extended to the stables of G. H. Tryder and E. Puffer. These stables were surrounded by wooden buildings of all kinds. The fire communicated to seven dwellings, a carriage manufactory, blacksmith and paint shop, and another stable, making fourteen buildings that were damaged by this fire, three of which were totally destroyed. The largest loss by any one fire occurred August 2d, at 11.06 P. M., second alarm given at 11.15 P. M. The Standard Worsted Company's Mill, cause unknown, supposed combustion, loss was \$26,184 00, the greater part of which was caused by water. There were only eleven other fires where the loss was over two thousand (\$2,000) dollars. For further particulars in regard to fires and losses, I refer you to the table annexed to this report.

The following will show the causes of the different alarms as near as could be ascertained.

Lard on stove	1	Tar kettle.....	1
Cigar stubs.....	9	Brush	16
Old rubbish.....	6	Steam pipe.....	4
Smoking in chair.....	1	Careless use of matches....	17
Defective chimney.....	12	Sparks set roof.....	13
Children and matches	16	False alarms.....	4
Exposure	11	Chimneys.....	31
Rats and Matches.....	10	Incendiary	1
Oil stoves exploded.....	7	Unknown....	17
Chicken brooder.....	1	Fire crackers	3
Lightning	3	Hot ashes.....	8
Alarms for same fire.....	10	Rekindled	3
Overheated bearing	1	Thawing water pipe.....	6
Curtain and red fire.....	1	Beds	5
Curtain and gas jet.....	4	Load of hay	1
Overheated stove set par-		Defective oven.....	2
tition ..	6	Electric light wire and tree	1
Overheated thermostat....	4	Supposed set by tramps...	5
No school.....	10	Cask of lime.....	1
Oil lamp explosion.....	3	Turpentine and wax on	
Stove pipe set floor.....	3	stove.....	1
Overheated furnace.....	1	Out of the city.....	7
Combustion	14	Water out of boiler.....	1
Locomotive sparks.....	2	Smoke from boiler.....	1
Caught in picker.....	1	Benzine caught from stove.	1
Axe and lantern.....	1	Grass	5
Electric switch.....	3	Defective electric lamps...	5
Thawing gas pipe.	1	Gas explosion.....	1
Furnace smoking.....	7	Sulphur smoke.....	1
Stove smoking	6	Smoking set clothes.....	2
Electric wire set awnings..	2	Hot air baloon set roof....	1
Defective motor set car....	1	Sparks set bagging.....	2
Explosion of Ginger extract	1	Second alarms.....	2

Of the buildings in which these fires occurred two hundred and one were composed of wood, fifty-three of brick and three of stone.

The following boxes were used in giving the alarms:

Box	Alarms	Box	Alarms	Box	Alarms	Box	Alarms
4	1	26	1	53	4	125	1
5	7	27	1	54	1	131	1
6	2	28	12	56	1	132	2
7	3	32	3	57	1	134	4
9	4	33	2	61	3	135	1
13	5	34	5	62	1	136	1
14	1	35	1	63	1	139	2
15	2	37	1	64	1	141	1
16	3	38	1	65	3	152	3
17	3	39	3	68	2	161	1
18	1	42	5	72	4	163	1
19	6	43	3	82	1	181	1
21	4	46	5	84	1	185	1
23	2	47	1	85	2	215	1
24	5	49	2	92	3	235	1
25	4	51	4	121	1	241	1
Total		.	.	.	.	.	156

Alarms from signal boxes.. .. .	156
Still Alarms.....	109
Telephone Alarms.....	40
Automatic Alarms.....	4

Whole number of alarms to December 31, 1893..... 309

The following table shows the number of alarms of fire for each month:

Jan...29	March 23	May.. 30	July..42	Sept..17	Nov.. 28
Feb..18	April 31	June .23	Aug..32	Oct...11	Dec.. 25

During the year the department has been called upon to mourn the loss of one of its members.

June 22d, Herbert H. Sawtelle, permanent engineer on Engine 6, died after a few days' illness. He joined the department, June 1892. A delegation from the department paid the last sad tribute of respect at his funeral.

Several casualties have occurred to members of the department during the past year, but fortunately none resulted fatally. The injured were J. W. Halstead and D. W. Russell of the Protective Company, S. O'Connell and T. Caruthers of Engine 1, W. F. Foss, H. Harris, W. P. Maker and T. H. Welch of Truck 3, B. C. Reed and L. C. Brainard of Engine 3, F. B. Akers of Engine 2, T. H. Rogers of Engine 6, Charles Riley of Hose 7, W. J. Flynn of Hose 8, A. H. Gibson of Truck 1, and J. F. Norton, First Assistant Engineer.

LOWELL FIREMEN'S FUND ASSOCIATION.

This benevolent association was organized December 17, 1885, for the purpose of furnishing relief to such of its members as should receive injuries while in the discharge of their duties. The income is derived from an annual assessment upon each member and by donations from citizens and others, and in behalf of the association I would return thanks to all those who have aided it in the past.

The following statement shows the amount standing to the credit of the association Jan. 1, 1894:

Cash on hand May 1, 1893.....	\$16,791 77
Cash received to January 1, 1894.....	2,265 24
Total.....	<u>\$19,057 01</u>
Cash paid out to January 1, 1894.....	1,482 95
Balance.....	<u><u>\$17,574 06</u></u>

CONCLUSION.

In conclusion I desire to express my appreciation to my Assistant Engineers, officers and members of the several companies for their fidelity and bravery, and for the prompt and efficient manner in which they have responded to all alarms, the support and good will manifested to me on all occasions, and their efforts to sustain the reputation of the department. I desire also to return my

sincere thanks to his Honor Mayor Pickman, the Board of Aldermen and Members of the City Council, for the interest manifested and the support given to the requirements of the department during the year; to the Committee on Fire Department for their hearty co-operation in all matters tending to the improvement of the department; to the Chief and other members of the Police Department for their assistance at fires and on all occasions; to the City Clerk, City Auditor, Superintendents of the different departments and all others with whom I have had pleasant intercourse, they will please accept my sincere thanks.

Respectfully submitted,

EDWARD S. HOSMER,

Chief Fire Department.



Schedule of Fires which have occurred in the City of Lowell during the Year ending December 31, 1893.

Date, 1893.	Time.	Signal.	Location.	Wood, Brick or Stone.	Owned by.	Occupied by.	Occupied as.	Loss.	Insurance.	Insurance Paid.	Cause of Fire.	Remarks.
July 1.	11.40 p. m.	Still	Palmer Street.	Wood	A. Staples.	B. J. Brady.	Millinery Store.	\$30.00	\$1,000	\$30.00	Electric light wire set awning.	
" 3.	11.22 a. m.	"	Plain Street.	Wood	Parker Heirs.	Unoccupied.	Stable.	70.00	500	70.00	Sparks set roof.	
" 4.	6.20 a. m.	"	Merrimack Street.	Brick	Robbins Heirs.	Miss A. Bagley.	Dressmaker.	38.85	4,000	38.85	Combustion.	
" 4.	8.32 a. m.	64	School Street.	Wood	I. Smith Heirs.	T. Delaney.	Dwelling.	10.00			Fire crackers set roof.	Engine 2 responded.
" 4.	11.30 a. m.	Still	Middlesex Street.	"	W. A. Ingham.	Several Families.	"	20.00	2,500	20.00	Hot Air Balloon set roof.	"
" 4.	9.35 p. m.	"	Grove Street.	"	P. Keyes.	Several Families.	"	25.00			Oil lamp.	
" 4.	11.01 p. m.	125	Jefferson Street.	"	T. H. Elliott.	"	"				Bed.	Engine 4 responded.
" 4.	11.20 p. m.	Still	Concord Street.	Brick	Mrs. Rugg.	Z. Loranger.	Stable.	600.00	1,400	400.00	Oil stove.	
" 6.	2.15 p. m.	67	Boylston Street.	Wood	B. Loranger.	A. West.	Cutlery.	955.09	1,500	809.85	Supposed tramps.	Two horses burnt.
" 10.	12.10 a. m.	7	Dutton Street.	"	S. L. Sawtelle.	F. E. Desautels.	Take Shop.				Combustion.	
" 12.	12.18 p. m.	Still	Bridge Street.	"	J. F. Puffer.	Several Families.	Dwelling.	90.00			Oven smoking.	
" 13.	12.25 a. m.	28	Cheever Street.	"	D. Reault.	Telephone Co.	Poles.				Chimney.	
" 13.	4.15 p. m.	33	Broadway.	"	W. Coburn.	E. Hapgood.	Store-house.	100.00	2,000	100.00	Boys and Matches.	
" 13.	12.02 p. m.	Still	Plain Street.	"	E. Hapgood.	"	Store-house.	100.00	2,000	100.00	Spark set cotton.	Hose 9 responded.
" 15.	4.53 p. m.	Tel.	Lawrence Street.	"	C. Charron.	B. Molit.	Dwelling.	75.00	9,000	75.00	Combustion in shoddy.	
" 15.	4.55 p. m.	61	"	"	"	"	"				Rum and matches.	
" 16.	12.06 a. m.	61	Madison Place.	"	Emery Heirs.	"	"				Cigar stub set tan bark.	Hose 9 responded.
" 16.	1.15 p. m.	Still	Tanner Street.	"	J. Crowley.	W. Morgan.	Dwelling.	30.00			Brush.	Engine 5 responded.
" 17.	10.15 a. m.	134	Seventh Avenue.	Wood	L. Richards.	Unoccupied.	Stable.	700.00	4,000	700.00	Unknown.	
" 18.	12.57 p. m.	135	Montreal Street.	"	J. Leech.	"	"	100.00			Rats' nest.	
" 18.	1.45 p. m.	Still	Concord Street.	"	Emery Heirs.	"	"				Smoking; dropped match in hay.	Hose 10 and Truck 4 responded.
" 18.	1.47 p. m.	64	Fourth Street.	"	A. P. Quimby.	G. E. Lovejoy.	"				Brush.	Engine 5 responded.
" 19.	6.50 p. m.	Still	Seventh Avenue.	"	D. Gage.	W. Coburn.	Store-house.				Rubbish in yard.	
" 20.	4.13 p. m.	Tel.	Quimby Avenue.	Wood	S. Farson.	Unoccupied.	Dwelling.	830.00	1,500	830.00	Oil lamp.	
" 21.	9.25 p. m.	43	Walnut Street.	"	Coburn.	Lavine & Bourgeault.	Store-house.	300.00			Spark set bagging.	
" 22.	11.36 a. m.	Still	Plain Street.	Wood	J. Albert.	S. Vendette.	Oil House.	250.00			Chimney.	
" 22.	5.64 p. m.	72	Jackson Street.	"	K. Boisvert.	"	Stable.	75.00			Unknown.	
" 22.	7.34 p. m.	34	Off Tanner Street.	"	Moir Bros.	"	Awning.				Boys smoking.	
" 23.	8.41 p. m.	28	Tucker Street.	"	Mrs. L. E. Burbank.	"	"				Match.	Engine and Truck 3 responded.
" 23.	"	"	"	"	"	"	"				Caught from Moir Bros.	
" 23.	10.64 a. m.	Still	Merrimack Street.	"	S. Abels.	A. Chapdelain.	Dwelling.	10.00			Chimney.	Engine 6 responded.
" 24.	10.57 a. m.	Still	Little Street.	Wood	A. Chapdelain.	I. M. Stover.	Dressmaker.				Stove smoking.	
" 24.	11.15 a. m.	Tel.	Merrimack Street.	Brick	B. & M. R. R.	Faulkner Mfg. Co.	Stable.	10.00			Unknown.	
" 26.	8.18 a. m.	82	Chelmsford Street.	Wood	Faulkner Mfg. Co.	Standard Worsted Co.	Shoe Mfg.	10.00			Overheated Thermostat.	
" 26.	9.50 p. m.	23	Perkins Street.	Brick	Ann Farrell.	Several Families.	Car of Cotton.				Unknown.	
" 30.	8.54 a. m.	Tel.	Cheever Street.	Wood	Whittier Mfg. Co.	Store-house.	Dry Room.	10.00			Steam pipes.	
Aug. 1.	8.28 p. m.	161	Faulkner Street.	Brick	Card Clothing Co.	"	Dwelling.	6,849.00	12,500	6,849.00	Combustion.	Hose 10 responded.
" 1.	10.55 p. m.	Still	Fifth Street.	Wood	Card Clothing Co.	"	Contents.	19,335.40	44,000	19,335.00	Second alarm.	
" 2.	11.06 p. m.	39	Willie Street.	Stone	Ann Farrell.	Several Families.	Dwelling.				Rags on floor.	
" 2.	11.16 p. m.	39	"	"	W. Coburn.	Store-house.	Store-house.				Sparks set bagging.	
" 4.	1.20 p. m.	19	Union Street.	Wood	Whittier Mfg. Co.	"	"				Combustion of cotton.	
" 6.	8.50 p. m.	Tel.	Plain Street.	"	Card Clothing Co.	"	"				Overheated Thermostat.	
" 9.	7.40 a. m.	134	"	"	Odd Fellows' Ass'n.	F. H. Pearson.	Bakery.				Lightning.	
" 9.	3.25 p. m.	134	"	"	Card Clothing Co.	J. G. Cote.	Dry Goods.	5.00	5,000	5.00	"	
" 9.	5.40 p. m.	Aut.	Shattuck Street.	"	Odd Fellows' Ass'n.	G. F. Parsons.	Dwelling.				Sparks set roof.	
" 10.	3.45 p. m.	46	Bridge Street.	Wood	G. F. Parsons.	"	Dwelling.				Unknown.	Out of city.
" 12.	5.08 p. m.	Aut.	Shattuck Street.	"	P. Kilbride.	"	Machine Shop.	200.00			Rats' nest.	
" 12.	5.26 p. m.	Still	Merrimack Street.	Brick	"	"	Dwelling.				Rekindled.	
" 12.	5.30 p. m.	Still	Hale Street.	Wood	Locks & Canals.	"	"				Brush.	Engine 5 responded.
" 14.	7.8 a. m.	Tel.	Chelmsford.	"	Dr. Daly.	"	Dwelling.				Defective chimney.	Engine 4 responded.
" 14.	11.30 p. m.	23	Stanley Street.	"	J. Tyler Stevens.	Talbot Mfg. Co.	Chemical Store.				Sulphur smoke.	Engine 3 responded.
" 16.	1.25 a. m.	23	"	"	H. H. Barnes.	"	Tailor.				Defective electric light.	Patrol responded.
" 16.	2.43 a. m.	23	"	"	"	"	"				False alarm.	
" 16.	11.15 a. m.	Still	Riverside Street.	"	H. B. Hill.	Several Families.	Dwelling.				Smoke in cellar.	Patrol responded.
" 16.	3.53 p. m.	"	"	"	E. K. Perley.	"	"	95.00	2,900	95.00	Rubbish in cellar.	
" 16.	9.40 p. m.	"	Andover Street.	Wood	Denaris Bros.	"	"				Oil stove.	
" 19.	12.13 p. m.	"	Middle Street.	Brick	B. McLeachan.	"	"				Rats' nest.	
" 19.	11.67 p. m.	"	Central Street.	Wood	H. B. Shattuck.	H. B. Shattuck.	Hardware.	23.14	4,000	23.14	Furnace smoking.	
" 21.	11.01 p. m.	15	"	"	Nute and Burnap.	Several Families.	Dwelling.				Gasoline stove.	
" 22.	7.47 a. m.	Still	Church Street.	Brick	R. G. Bartlett.	"	"				Defective stove pipe.	
" 22.	9.30 p. m.	28	Cheever Street.	Wood	F. S. Cooleedge.	"	"	945.60	2,300	945.60	Oil stove.	
" 23.	9.30 p. m.	68	Lakeview Avenue.	"	S. N. Wood.	A. G. Pollard & Co.	Dry Goods.				Children and matches.	
" 23.	7.52 a. m.	42	Middlesex Street.	"	"	City.	Crematory.	400.00			Electric Transformer.	
" 25.	10.15 a. m.	Still	Central Street.	Brick	"	"	"				Unknown.	
" 25.	3.45 p. m.	"	Chestnut Street.	"	"	"	"				Same fire.	
" 25.	10.11 a. m.	5	Cushing Street.	Wood	"	"	"				Ash barrel.	
" 30.	10.49 a. m.	65	Hurrell Place.	"	"	"	"	15.00			Boys and matches.	
" 30.	5.16 p. m.	16	Mill Street.	"	"	"	"				Same fire.	
Sept. 2.	9.49 p. m.	Still	Palmer Street.	"	"	"	"	1,171.22	3,000	1,171.22	Supposed tramps.	Three horses burned and 10 killed.
" 3.	2.10 a. m.	Tel.	Plain Street.	Wood	"	"	"	10.00			Sparks set roof.	
" 3.	2.13 a. m.	34	"	"	"	"	"				Smoke from boiler.	
" 6.	1.32 p. m.	Tel.	North Street.	"	"	"	"	488.50	15,500	488.50	Defective chimney.	
" 6.	1.35 p. m.	241	"	"	"	"	"	15.00			Unknown.	
" 11.	3.44 a. m.	46	Second Street.	Wood	"	"	"				Gasoline stove.	
" 11.	11.29 a. m.	28	Cooleedge Street.	"	"	"	"				Shavings in cellar.	
" 18.	10.19 p. m.	42	Thorndike Street.	"	"	"	"	85.00	21,000	85.00	Stove smoking.	
" 19.	5.50 p. m.	Still	Carter Street.	"	"	"	"	1,000.00	1,000	1,000.00	Electric switch.	
" 19.	11.14 p. m.	13	Prescott Street.	Brick	"	"	"	150.00	150	150.00	Unknown, supposed tramps.	
" 22.	3.30 p. m.	28	Cabot Street.	"	"	"	"	200.00			"	
" 22.	4.15 p. m.	Still	Gorham Street.	Wood	"	"	"	5,974.49	7,600	5,974.40	Caught from Simpson's.	
" 25.	5.26 p. m.	16	Hudson Street.	"	"	"	"	40.00	1,600	40.00	"	
" 26.	10.55 p. m.	Still	Merrimack Street.	Brick	"	"	"	162.50	8.25	162.50	"	
" 30.	10.56 p. m.	46	West Third Street.	Wood	"	"	"	30.00	1,000	30.00	"	
" 30.	11.10 p. m.	2d alarm	"	"	"	"	"	14.00	400	14.00	"	
"	"	"	"	"	"	"	"	225.00	600	225.00	"	
"	"	"	"	"	"	"	"	5.00	1,500	5.00	"	
"	"	"	"	"	"	"	"	124.50	650	124.50	Caught from Simpson's.	
"	"	"	"	"	"	"	"	550.00	800	550.00	"	
"	"	"	"	"	"	"	"	47.00	800	47.00	"	
"	"	"	"	"	"	"	"	20.00	800	20.00	"	
"	"	"	"	"	"	"	"	93.00	800	93.00	"	
"	"	"	"	"	"	"	"	372.00	400	372.00	"	
Oct. 8.	8.18 p. m.	51	Congress Street.	Wood	"	"	"				Set by boys.	
" 13.	10.55 a. m.	Still	Dutton Street.	"	"	"	"				Cigar stub.	Engine 3 responded.
" 14.	10.53 p. m.	9	Merrimack Street.	Wood	"	"	"	3,723.39	13,800	3,723.39	Unknown.	
" 16.	5.50 p. m.	45	Appleton Street.	"	"	"	"	25.00			"	
" 19.	11.36 p. m.	28	Aiken Street.	"	"	"	"	60.00	3,000	60.00	Defective chimney.	
" 21.	11.04 a. m.	85	Parker Street.	"	"	"	"				Brush.	
" 21.	4.46 p. m.	17	Middlesex Street.	Wood	"	"	"	49.00	1,500	49.00	Children and matches set house.	
" 21.	9.40 a. m.	Still	Merrimack Street.	Brick	"	"	"				Defective stove pipe.	Engine and Truck 3 responded.
" 25.	4.05 p. m.	Still	Suffolk Street.	Wood	"	"	"				Chimney.	Hose 8 responded.
" 25.	9.17 p. m.	13	Palmer Street.	"	"	"	"				Rats' nest.	
" 30.	10.03 p. m.	Still	Merrimack Street.	Brick	"	"	"				Cigar stub.	
Nov. 1.	6.10 p. m.	51	Merrimack Street.	Wood	"	"	"				Gas jet.	Hose 8 responded.
" 2.	8.03 a. m.	Still	Lawrence Street.	"	"	"	"				Children and matches.	
" 4.	5.30 p. m.	32	Broadway.	"	"	"	"				Chimney.	Engine 6 responded.
" 7.	6.42 p. m.	Still	Elmwood Street.	"	"	"	"	35.00	800	35.00	Defective chimney.	
" 7.	11.00 a. m.	Still	Central Street.	"	"	"	"				"	Hose 7 responded.
" 7.	4.45 p. m.	"	Gorham Street.	"	"	"	"				Gas jet in window.	
" 8.	12.07 a. m.	25	Tilden Street.	"	"	"	"	10.00			Defective chimney.	
" 9.	5.02 a. m.	13	Prescott Street.	Brick	"	"	"	133.00	9,000	133.00	Ash barrel.	
" 9.	6.05 p. m.	16	Rogers Street.	Wood	"	"	"				Chimney.	
" 12.	6.14 a. m.	63	Hale Street.	"	"	"	"	62.00	1,000	62.00	Supposed tramps.	
" 14.	12.30 p. m.	Still	East Merrimack St.	"	"	"	"	20.00	1,500	20.00	Cigar stub.	Burns of engine 4 responded.
" 14.	2.39 p. m.	49	Willow Street.	Wood	"	"	"				Rubbish and matches.	
" 14.	7.15 p. m.	Still	Carter Place.	"	"	"	"	2,500.00	2,500	2,500.00	Incendiary.	Engine 1 responded.
" 14.	8.51 p. m.	92	Dracut.	Wood	"	"	"	98.00	1,100	98.00	Children and matches.	Out of city.
" 17.	2.09 p. m.	19	Central Street.	"	"	"	"	71.00	2,000	71.00	Caught from Wheelock's.	
" 17.	2.09 p. m.	"	Charles Street.	"	"	"	"	100.00			Caught from picker.	
" 17.	2.20 p. m.	Still	Bridge Street.	"	"	"	"				Ash barrel in cellar.	Truck 2 responded.
" 18.	9.46 a. m.	"	Westford Street.	"	"	"	"				Brush.	
" 19.	4.08 p. m.	235	Perry Street.	"	"	"	"				No school.	
" 22.	7.45 a. m.	222	"	"	"	"	"				Clothes in closet.	Hose 7 responded.
" 22.	12.05 p. m.	Still	Charles Street.	Wood	"	"	"				Old mattress set by boys.	
" 23.	4.65 p. m.	"	Leverett Street.	"	"	"	"				Combustion.	
" 24.	7.16 p. m.	43	Highland Street.	Wood	"	"	"				Smoke from furnace.	Truck 2 responded.
" 26.	10.50 a. m.	Still	Westford Street.	"	"	"	"				Stove smoking.	
" 26.	11.00 a. m.	19	Gorham Street.	Wood	"	"	"				Chimney.	
" 28.	5.67 a. m.	92	Bridge Street.	"	"	"	"				No school.	
" 28.	7.45 a. m.	222	"	"	"	"	"				Smoke from chimney.	

FIRE DEPARTMENT.

JANUARY 1, 1893.

CHIEF ENGINEER.

EDWARD S. HOSMER, { Office, Palmer Street Engine House.
 { Residence, 202 Westford Street.

ASSISTANT ENGINEERS.

JAMES F. NORTON, . . . Residence, 18 Ames Street
GEORGE F. SALMON, . . . Residence, 24 Mt. Washington Street
EDWARD MELOY, . . . Residence, 86 Charles Street
HENRY W. BURTON, . . . Residence, 4 Kimball Avenue

CHIEF'S DRIVER,

HARRY B. SAUNDERS, . . . Palmer Street Engine House

TELEGRAPH OPERATOR.

GEORGE B. WHITNEY, . . . Residence, Palmer Street Engine House

COMMITTEE ON FIRE DEPARTMENT, 1893.

Aldermen—F. W. Puffer and Choate.

Councilmen—O'Neil, Dolan and Robinson.

ENGINE COMPANY No. 1.

TWELVE MEMBERS.

HOUSE ON GORHAM STREET.

Badge	Rank	Name	Age	Occupation	Joined Dpt	Residence
15....	Foreman.....	C. D. Foley	39	Carpenter.....	June, 1879	31 Newhall Street
11....	Ass't Foreman.	T. W. Collins.....	37	Permanent	Apr., 1884	Engine House
1....	Clerk.....	Geo. W. Lovett.....	43	Driver, Wagon	Dec., 1875	Engine House
119....	Engineer.....	J. W. Jantzen	40	Permanent	Feb., 1884	Engine House
12....	Driver.....	R. O'Connell.....	38	Driver, Engine.	May, 1878	Engine House
17....	Ass't Engineer.	T. McNamara	49	Machinist.....	Apr., 1884	740 Lawrence Street
19....	Hoseman.....	G. M. Cleary	43	Carpenter.....	Aug., 1880	18 Livingston Street
16....	Hoseman.....	T. Caruthers.....	48	Stamper	Apr., 1884	Engine House
14....	Hoseman.....	P. Curtin	41	Moulder	May, 1874	141 Lawrence Street
13....	Hoseman.....	S. O'Connell....	42	Plasterer.....	Apr., 1884	30 Fay Street
18....	Hoseman.....	J. Lowney	25	Clerk.....	July, 1892	202 Gorham Street
10....	Hoseman.....	B. J. Brady	36	Permanent.....	Jan., 1893	Engine House

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of Engine Company, No. 1.

Engine, built by Union Machine Company, Fitchburg, Mass., in 1872; has two double acting steam cylinders, $7\frac{1}{8}$ inches in diameter, 8 inch stroke; two double acting pumps, $4\frac{3}{8}$ inches in diameter, arranged to work separately or together; weight when loaded, 7180 pounds. 1 one horse wagon built by Abbott-Downing Co., Concord N. H.; 4 horses, 1 set double and two single harnesses, 1 pair lead bars, 4 blankets, 1 hose sleigh, 1 fuel wagon, 1 four way chuck, 1 branch connection, 3 pipes with stop nozzles, $12\frac{1}{2}$ inch cap, 1 $5 \times 2\frac{1}{2}$ reducer, 4 small reducers, 6 spanners, 8 lanterns, 4 wrenches, 6 ladder straps, 2 bars, 2 axes, 1 bucket, 1500 feet $2\frac{1}{2}$ inch cotton hose, 100 feet 1 inch rubber hose, 1 set blocks, 1 extinguisher, 6 beds and bedding, 1 mirror, 2 bureaus, 12 chairs, 3 shovels, 1 fork, 4 brooms, 30 feet of rope, 2 pails, 1 12-foot ladder, 1 steam boiler, 2 ash cans, 1 coal hod, 4 boxes, 2 blocks, 1 jack screw, 1 carriage jack, 1 copper goose neck, 1 basket, 1 work bench and vise, 6 spittoons, 1 chisel, 1 pair shafts, 2 oil cans, 26 badges, 12 set buttons, 1 hose washer, 1 three-horse pole, 4 insignia, 3 stable cans, 6 smoke protectors, and all tools for cleaning and repairing engine.

ENGINE COMPANY No. 2.

TWELVE MEMBERS.

HOUSE ON BRANCH STREET.

Badge	Rank	Name	Age	Occupation	Joined Dpt	Residence
20....	Foreman	A. C. Stearns.....	53	Permanent.....	Nov., 1862	Engine House
21....	Ass't Foreman.	F. B. Akers	39	Permanent.....	May, 1878	Engine House
2....	Clerk.....	H. Boynton	42	Driver, Wagon.	Apr., 1869	Engine House
29....	Engineer	C. S. Hibbert.....	48	Permanent ...	Nov., 1865	Engine House
90....	Driver.....	F. Boynton.....	32	Driver, Engine.	Dec., 1882	Engine House
28....	Ass't Engineer.	E. M. Foster	34	Machinist	May, 1888	148 Westford Street
22....	Hoseman.....	H. R. Morrison.....	34	Machinist	July, 1882	Merrimack Street
23....	Hoseman.....	E. E. Maynard.....	32	Clerk	May, 1883	18 East Pine Street
27....	Hoseman.....	A. S. Maynard.....	40	Carpenter	Nov., 1884	18 East Pine Street
25....	Hoseman.....	W. H. Oakes	28	Machinist	Dec., 1893	36 Smith Stree
24....	Hoseman.....	W. L. Hills	28	Bottler.....	Mar., 1891	156 Branch Street
26....	Hoseman	C. E. Alway.....	29	Carpenter	Feb., 1889	45 Summer Street

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of Engine Company, No. 3.

Engine, built by Manchester Locomotive Works, Manchester, N. H.; weight when loaded, 7,600 pounds, $6\frac{7}{8}$ inch cylinder, 8 inch stroke, $4\frac{1}{2}$ inch double acting pumps, two horse hose carriage, built by Leverich & Co., New York, 1,900 feet $2\frac{1}{2}$ inch cotton hose, 50 feet $\frac{3}{4}$ inch rubber hose, 1 hose sleigh, 1 fuel wagon, 4 horses, 5 harnesses, 5 blankets, 1 two-way chuck and reducer, 1 four-way chuck 1 branch connection, 4 pipes, 6 spanners, 6 ladder straps, 2 hydrant wrenches, 1 axe, 2 bars, 1 jack screw, 1 pair lead bars, 1 three horse pole, 6 coal boxes, 12 chairs, 3 mirrors, 3 clocks, 1 work bench and vise, 5 beds and bedding, 1 lathe, heater and tank, steam boiler and radiators, 2 set blocks, 4 ash cans, 1 table, 24 badges, 16 set buttons, 8 insignia, 1 hose washer, 1 pair steps, 1 pair skids for loading engine, hose carriage and wagons on cars, 3 smoke protectors, 1 extinguisher, 4 stable cans and all other tools for cleaning horses and repairing engine.

ENGINE COMPANY No. 3.

TWELVE MEMBERS.

HOUSE ON PALMER STREET.

Badge	Rank	Name	Age	Occupation	Joined Dpt	Residence
30 ...	Foreman	F. Hoyt.....	45	Permanent	Aug., 1873	Engine House
31	Ass't Foreman.	O. A. Knapp	29	Permanent	July, 1889	Engine House
3 ..	Clerk	L. C. Brainard.....	35	Driver, Wagon.	Feb., 1889	Engine House
33	Engineer.....	M. I. Collins	38	Engineer.....	Apr., 1888	Engine House
133....	Driver.....	B. C. Reed.....	40	Driver, Engine.	Aug., 1885	Engine House
34	Ass't Engineer.	J. G. Merchant.....	55	Engineer.....	Apr., 1870	188 Westford Street
37	Hoseman.....	F. E. Roark.....	44	Lighter	July, 1875	80 Middle Street
38	Hoseman.....	G. T. Halstead	36	Permanent ...	Nov., 1883	Engine House
35	Hoseman... ..	L. A. Brainard.....	37	Surveyor.....	Jan., 1893	21 School Street
32	Hoseman.....	F. E. Turner	30	Clerk	July, 1892	3 Hamilton Corp.
39	Hoseman.	H. Coulam.....	40	Second-hand...	Mar., 1876	Hamilton Corp.
36	Hoseman.....	A. E. Dearth	33	Carpenter	June, 1891	Dutton Street

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of Engine Company, No. 3.

Engine, built by Manchester Locomotive Works, Manchester, N. H.; weight when loaded, 9,300 pounds. 35 feet suction hose with hydrant couplings, 1 one-horse hose wagon, 5 horses, 1 set three horse hitch and 1 set double harness, 4 halters, 5 blankets, 1450 feet $2\frac{1}{2}$ inch cotton hose, 1 four-way chuck and reducer, 1 reducer and cap, 1 six-way Lowry chuck, 4 pipes, 2 stop nozzles, 2 branch connections, 2 hydrant wrenches, 4 spanners, 1 bar, 1 shovel, 4 ladder straps, 6 lanterns, 3 stable cans, 6 beds and bedding, 2 mirrors, 2 clocks, 15 chairs, 1 hose rope, 1 monkey wrench, 1 carriage jack, 26 badges, 12 set buttons, 8 insignia, 1 hose washer, 1 extinguisher, 3 smoke protectors, and all tools for cleaning horses, and repairing engine.

ENGINE COMPANY No. 4.

TWELVE MEMBERS.

HOUSE ON HIGH STREET.

Badge	Rank	Name	Age	Occupation	Joined Dpt	Residence
40....	Foreman	J. J. Quinlan	35	Permanent	Aug., 1871	Engine House
47....	Ass't Foreman	J. E. Burns	33	Market	Feb., 1882	229 Stackpole Street
4....	Clerk.....	W. King	51	Driver, Wagon.	Nov., 1863	Engine House
41....	Driver.....	J. J. Harrington....	43	Driver, Engine.	Nov., 1869	Engine House
134....	Engineer.....	F. F. Prescott	34	Engineer.....	July, 1893	Engine House
45....	Ass't Engineer	C. Morse.....	52	Engineer.....	May, 1865	58 Fairmount Street
44....	Hoseman.....	M. Connors.....	43	Plasterer.....	Mar., 1883	55 Pleasant Street
42....	Hoseman.....	J. E. Sullivan.....	41	Permanent	May, 1883	Engine House
43....	Hoseman.....	J. E. Dolan	53	Painter	May, 1865	75 Concord Street
46....	Hoseman.....	J. P. Smith	30	Clerk	Sept., 1886	77 Concord Street
48....	Hoseman.....	T. Tighe.....	36	Finisher	Dec., 1888	39 Concord Street
49....	Hoseman.....	B. F. Freeman.....	49	Lamplighter...	Jan., 1893	21 Fort Hill Avenue

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of Engine Company, No. 4.

Engine, built by Manchester Locomotive Works, Manchester, N. H. ; weight, 8,000 pounds, $6\frac{7}{8}$ inch cylinder, 8 inch stroke, $4\frac{1}{2}$ inch double acting pumps, 1 one-horse hose wagon, built by Abbott Downing Co., Concord, N. H., 5 horses, 1 set three-horse hitch and 1 set double harnesses, 1500 feet cotton hose, 50 feet rubber hose, 1 carriage jack, 2 clocks, 2 mirrors, 1 table, 16 chairs, 2 dusters, 6 shovels, 4 pails, 5 spittoons, 1 fuel wagon, 6 beds and bedding, 1 bureau, 12 set buttons, 26 badges, 4 insignia, 12 spanners, 5 ladder straps, 1 jack screw, 7 coal boxes, 50 feet rope, 1 $5\times 2\frac{1}{2}$ inch reducer, 1 hose washer, 1 extinguisher, 5 blankets, 1 bench and vise, 1 steam boiler and radiators, 1 heater and boiler, 1 pair steps, 3 bars, 5 pipes, 2 pair reducing couplings, 1 three horse pole, 1 oil tank, 1 four-way and 1 two-way chuck, 1 branch connection, 3 ash cans, 4 smoke protectors, 1 set blocks, 1 Haile Water Tower, snow shovels, brooms and all tools for cleaning horses and repairing engine.

ENGINE COMPANY No. 5.

TWELVE MEMBERS.

HOUSE, MAMMOTH ROAD, PAWTUCKETVILLE.

Badge	Rank	Name	Age	Occupation	Joined Dpt	Residence
152....	Foreman.....	E. W. Bartlett.....	46	Permanent.....	May, 1883	Engine House
52....	Ass't Foreman.	J. H. Joyce.....	51	Permanent....	June, 1864	Engine House
5....	Clerk.....	H. C. Fernald.....	41	Permanent....	Feb., 1882	Engine House
50....	Driver.....	G. F. Flint.....	32	Permanent....	Aug., 1892	Engine House
51....	Engineer.....	C. L. Brown.....	40	Permanent....	Jan., 1893	Engine House
53....	Ass't Engineer.	J. P. Fowler.....	45	Carpenter.....	May, 1883	84 Fourth Avenue
55....	Hoseman.....	A. F. Cogger.....	49	Piper.....	May, 1883	White Street
57....	Hoseman.....	S. S. Page.....	45	Mason.....	May, 1888	8 Second Avenue
58....	Hoseman.....	J. J. Frazier.....	37	Moulder.....	June, 1892	5 Clinton Avenue
59....	Hoseman.....	M. A. Mooney.....	26	Painter.....	June, 1892	9 Mammoth Road
56....	Hoseman.....	R. B. Seeton.....	44	Brass Finisher.	Aug., 1892	Fourth Avenue
54....	Hoseman.....	J. J. McMannan.	22	Machinist.....	Jan., 1893	Second Avenue

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of Engine Company, No. 5.

Steamer, built by the American Fire Engine Company, Seneca Falls, New York; weight 7,350 pounds, two horse hose wagon built by J. H. Swett, of Lowell, weight when loaded 4,300 pounds, 2,400 feet cotton hose, 1 four way chuck, 3 hydrant wrenches, 50 feet rubber hose, 1 carriage jack, 6 horses, 6 harnesses 2 clocks, 2 mirrors, 1 table, 24 chairs, 2 dusters, 7 shovels, 4 pails, 5 spittoons, 7 beds and bedding, 26 badges, 12 set buttons, 8 insignia, 4 ash cans, 3 stable cans, 4 ladders, 6 spanners, 4 ladder straps, 1 jack screw, 6 coal boxes, 1 hose washer, 2 extinguishers, 1 work bench and vise, 3 hooks, 4 pipes, 2 axes, 3 lanterns, 2 three horse poles, 6 horse blankets and all other tools for cleaning horses and repairing steamer.

ENGINE COMPANY, No. 6.

TWELVE MEMBERS.

HOUSE ON FLETCHER STREET.

Badge	Rank	Name	Age	Occupation	Joined Dpt	Residence
135....	Foreman	D. J. Hurley.....	42	Permanent.....	May, 1879	Engine House
63....	Ass't Foreman.	E. W. Fletcher.....	40	Moulder	June, 1874	68 L. M. S. Corp.
6....	Clerk.....	J. A. Fletcher.....	37	Driver, Wagon.	May, 1880	Engine House
61....	Hoseman.....	T. H. Rogers.....	42	Permanent ...	Dec., 1888	Engine House
64....	Hoseman.....	T. F. Welch.....	44	Cabinet Maker	June, 1884	49 Common Stree
65....	Hoseman.....	J. J. Murray.....	42	Cabinet Maker.	July, 1885	91 Bowers Stree
60....	Driver.....	S. R. Pendexter.....	41	Driver, Engine.	June, 1892	Engine House
62....	Engineer	F. G. Collins.....	35	Permanent.....	Dec, 1889	Engine House
67....	Hoseman.....	J. J. Musiek.....	32	Blacksmith.....	July, 1885	Engine House
69....	Ass't Engineer.	E. Perham.....	33	Box Maker....	July, 1892	82 Common Street
66....	Hoseman.....	R. E. Burns.....	28	Cabinet Maker	Dec., 1888	16 Nichols Street
79....	Hoseman	T. F. Maguire.....	27	Clerk	July, 1892	32 Butterfield Street

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of Engine Company, No. 6.

Engine, built by Manchester Locomotive Works, Manchester, N. H.; weight when loaded 9,300 pounds, 36 feet suction hose, hydrant couplings, 1 one horse hose wagon built by Abbott-Downing Co., Concord, N. H., 4 horses, 5 harnesses, 1 bridle, 1 extinguisher, 1,900 feet cotton hose, 4 pipes, 2 stop nozzles, 10 spanners, 1 four way and 1 two way chuck, 1 two way connection with valves, 1 reducer, 3 brooms, 4 hydrant wrenches, 1 carriage jack, 3 pails, 3 stable cans, 1 jack screw, 3 ladder straps, 5 blankets, 2 dusters, 1 ladder, 1 step ladder, 1 brush, 11 lanterns, 8 spittoons, 2 shovels, 19 chairs, 7 beds and bedding, 5 mops, 1 window brush, 1 table, 2 dust pans, 2 axes, 1 ash can, 2 clocks, 3 mirrors, 1 gas stove, 1 boiler and radiators, 26 badges, 12 set buttons, 4 insignia, 1 hose washer, $1\frac{1}{2}$ tons steamer coal, 2 benches and vises, 100 feet hose, 1 oil tank, 1 fork, 6 smoke protectors, and all tools for cleaning horses and repairing engine.

HOSE COMPANY, No. 7.

NINE MEMBERS.

HOUSE ON CENTRAL STREET.

Badge	Rank	Name	Age	Occupation	Joined Dpt	Residence
72....	Foreman	E. Cunnigham.....	46	Steam Fitter..	Aug., 1866	82 Charles Street
70....	Ass't Foreman.	C. Riley	38	Permanent.....	May, 1880	Hose House
7....	Clerk.....	E. O'Connell.....	36	Driver.....	Aug., 1878	Hose House
75....	Hoseman.....	J. Sullivan	27	Permanent....	July, 1892	Hose House
73....	Hoseman.....	P. Emerson.....	35	Carpenter	Feb., 1883	49 Cedar Street
74....	Hoseman.....	E. Crowley	39	Coppersmith...	Feb., 1883	Hose House
71....	Hoseman.....	P. McLaughlin.....	38	Permanent.....	Aug., 1888	Hose House
76....	Hoseman.....	J. Freeman.....	36	Lamplighter....	Oct., 1888	19 Keene Street
77....	Hoseman	J. J. Emerson.....	31	Upholsterer ...	July, 1889	3 Mead Street

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of Hose Company, No. 7.

One two-horse hose carriage with pole and shafts, 1 hose sleigh, 2 horses, 1 set double harness, 2 blankets, 2 forks, 2 brooms, 1,600 feet cotton hose, 50 feet rubber hose, 2 pipes and stop nozzles, 6 lanterns, 1 axe, 1 four-way chuck, 1 two-way chuck, 2 wrenches, 1 reducing coupling, 1 cap, 4 spanners, 4 ladder straps, 1 branch connection, 2 dusters, 1 carriage jack, 2 stable cans, 4 beds and bedding, 12 chairs, 1 carpet, 6 spittoons, 2 clocks, 2 oil cans, 1 extinguisher, 2 shovels, 2 pails, 2 mirrors, 1 hose washer, 1 pair steps, 1 wagon, 3 bridles, 1 table, 20 badges, 9 set buttons, 4 insignia, 1 boiler and radiators, 6 smoke protectors, and all tools for cleaning horses.

HOSE COMPANY No. 8.

NINE MEMBERS.

HOUSE ON MERRIMACK STREET.

Badge	Rank	Name	Age	Occupation	Joined Dpt	Residence
150 ...	Foreman	W. J. Flynn.....	41	Permanent	Apr., 1885	Hose House
83	Hoseman.....	D. H. Crowley.....	33	Permanent	Feb., 1890	Hose House
87 ..	Hoseman.	W. F. Tighe.....	31	Plumber	Sept., 1892	2 Jefferson Street
88	Hoseman.....	H. C. Dana.....	29	Machinist	Oct., 1888	64 L. M. S. Corp.
151	Clerk	B. J. Dunn.....	31	Driver	Feb., 1890	Hose House
89	Hoseman.....	D. F. Smith.....	34	Shoemaker	Jan., 1893	230 Market Street
85	Hoseman.....	L. S. Kimball.....	43	Roll Coverer...	May, 1869	16 John Street
86	Ass't Foreman.	E. F. Saunders	28	Baker.....	Feb., 1890	Hose House
136	Hoseman.....	J. F. Convery.....	40	Carpenter	Jan., 1893	39 Adams Street

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of Hose Company, No. 8.

One two-horse hose carriage, 1 two-horse sleigh, 2 horses, 1 set double harness, 2 bridles, 2 blankets, 1 extinguisher, 1,800 feet cotton hose, 2 pipes and shut off nozzles, 6 spanners, 1 four-way chuck, 1 bar, 1 axe, 3 ladder straps, 3 mops, 3 wrenches, 2 stable cans, 2 dust pans, 1 carriage jack, 3 brooms, 2 ash cans, 1 step ladder, 3 shovels, 6 cuspidores, 2 clocks, 1 water cooler, 2 mirrors, 2 pails, 2 dusters, 1 rubber mat, 11 chairs, 5 beds and bedding, 1 table, 5 rugs, 1 boiler and radiators, 20 badges, 9 set buttons, 4 insignia, 1 window brush, 1 scrub brush, 1 hose washer, 1 half peck measure, 2 forks, 50 feet rubber hose, 4 lanterns, 5 smoke protectors, and all tools for cleaning horses.

HOSE COMPANY No. 9.

NINE MEMBERS.			HOSE ON LINCOLN STREET.			
Badge	Rank	Name	Age	Occupation	Joined Dpt	Residence
91....	Foreman	S. E. Bartlett.	45	Permanent.....	Nov., 1867	Hose House
92....	Clerk.....	P. S. Webster.....	46	Driver	May, 1884	Hose House
93....	Ass't Foreman.	G. H. Chapman.....	38	Wood Dealer...	May, 1885	38 Lincoln Street
94....	Hoseman.....	J. Baxter.....	35	Permanent	July, 1883	Hose House
95....	Hoseman.....	J. E. Wilkins.....	46	Machinist.....	July, 1883	6 Main Street
96....	Hoseman.....	P. J. Clune.....	32	Machinist.....	Nov., 1890	Hose House
97....	Hoseman.....	C. A. Rock.....	34	Butcher.....	May, 1893	92 Washington St
98....	Hoseman.....	E. F. Grady.....	32	Folder.	May, 1893	282 Lincoln Street
79....	Hoseman.....	F. A. Kappler	35	Carpenter.....	May, 1893	203 Lincoln Street

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of Hose Company, No. 9.

One one-horse hose wagon built by Abbott-Downing Co., Concord, N. H.; 1 sleigh, 1 horse, 1 harness, 1 blanket, 1 four-way chuck, 2 wrenches, 2 pipes and stop nozzles, 5 spanners, 1 bar, 3 ladder straps, 2 lanterns, 1,250 feet cotton hose, 50 feet rubber hose, 1 carriage jack, 2 clocks, 2 mirrors, 1 table, 18 chairs, 1 ash can, 1 stable can, 1 duster, 1 shovel, 2 pails, 5 spittoons, 6 beds and bedding, 20 badges, 9 set buttons, 8 insignia, 1 dust pan, 1 brush, 1 broom, 1 oil can, 7 mats, 1 extinguisher, 1 steam boiler and radiators, 1 hose washer, 6 smoke protectors, and all tools for cleaning horses.

HOSE COMPANY No. 10.

NINE MEMBERS.			HOUSE ON FOURTH STREET.			
Badge	Rank	Name	Age	Occupation	Joined Dpt	Residence
160....	Foreman	C. F. Hemenway....	44	Permanent	Sept. 1875	Hose House
163....	Ass't Foreman	F. Mansur.....	44	Carpenter	Nov., 1874	83 Fifth Street
161...	Clerk.....	A. E. Kidder.....	38	Driver	Oct., 1877	Hose House
166....	Hoseman.....	A. Merrill	56	Truckman....	Dec., 1873	57 Fifth Street
164....	Hoseman.....	E. L. Hewes	32	Tinsmith.....	Nov., 1886	371 Bridge Street
165....	Hoseman.....	F. D. Morey	29	Carpenter	Nov., 1887	13 Methuen Street
162....	Hoseman.....	J. McCafferty.....	30	Permanent	Nov., 1887	Hose House
167....	Hoseman.....	J. McKissock	41	Carpenter	July, 1889	509 Beacon Street
168....	Hoseman.....	Fred Mansur.....	35	Carpenter	Oct., 1889	21 Third Street

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of Engine Company, No. 10.

One two-horse hose carriage, built by Manchester Locomotive Works, Manchester, N. H.; 2 horses, 1 set double harness, 2 bridles 2 blankets, 1,750 feet cotton hose, 25 feet rubber hose, 2 pipes and stop nozzles, 1 reducer, 1 two way and 1 four-way chuck, 1 branch connection, 1 reducing coupling, 1 cap, 8 spanners, 2 wrenches, 6 lanterns, 2 bars, 1 ladder, 1 axe, 1 carriage jack, 1 stable can, 4 beds and bedding, 20 chairs, 1 table, 1 clock, 2 pails, 3 shovels, 3 brooms, 2 forks, 1 duster, 1 sifter, 4 ash cans, 2 oil cans, 3 spittoons, 1 set blocks, 140 feet of rope, 1 pulley, 1 hose sleigh, 1 fuel wagon, 1 boiler and radiators, 1 pair steps, 6 smoke protectors, 20 badges, 9 set buttons, 4 insignia, 1 hose washer, and all tools for cleaning horses.

HOSE COMPANY No. 11.

NINE MEMBERS.			HOUSE ON LAWRENCE STREET.			
Badge	Rank	Name	Age	Occupation	Joined Dpt	Residence
200....	Foreman	J. J. Jennings.....	35	Permanent	Nov., 1883	Hose House
201....	Ass't Foreman	W. A. Dolan.....	29	Permanent	Jan., 1888	Hose House
202....	Clerk.....	J. Bamford	35	Driver	Dec., 1889	Hose House
203....	Hoseman.....	E. Jennings.....	37	Machinist	Jan., 1893	859 Lawrence Street
204....	Hoseman.....	J. O'Hare.....	29	Finisher	Jan., 1893	17 Prospect Street
205....	Hoseman.....	T. J. Dwyer.....	31	Machinist	Jan., 1893	534 Central Street
206....	Hoseman.....	George Buck.....	28	Bolt Maker....	Jan., 1893	742 Lawrence Street
207....	Hoseman.....	J. J. Doherty.....	31	Fruit Dealer...	Jan., 1893	18 Mill Street
208....	Hoseman.....	J. F. Welch.....	28	Piper	Jan., 1893	417 Lawrence Street

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of Hose Company, No. 11.

One one-horse hose wagon, built by John Swett of this city, with pole and shafts, 2 horses, 2 harnesses, 2 blankets, 1 extinguisher, 1500 feet cotton hose (rubber lined) 50 feet rubber hose, 2 pipes and stop nozzles, 4 spanners, 1 four-way chuck, 1 bar, 3 brooms, 1 carriage jack, 2 pails, 2 ladder straps, 2 dusters, 2 brushes, 2 lanterns, 2 pipe holders, 1 wire basket, 1200 feet $\frac{3}{4}$ inch rope, 75 feet 2 inch rope, 12 spittoons, 2 shovel, 18 chairs, 5 beds and bedding, 1 axe, 7 ash cans, 2 clocks, 3 mirrors, 1 steam boiler and radiators, 20 badges, 9 set buttons, 8 insignia, 1 table, 1 dust pan, 1 oil tank, 7 smoke protectors, door mat, 6 rugs, 1 water heater, 1 hose washer, 3 mops, and all tools for cleaning horses.

TRUCK COMPANY, No. 1.

HOUSE ON LAWRENCE STREET.						
TEN MEMBERS.						
Badge	Rank	Name	Age	Occupation	Joined Dpt	Residence
209	Foreman	A. H. Gibson.....	37	Permanent.....	Feb., 1884	Ladder House
210	Ass't Foreman.	T. Brown.....	37	Permanent ...	May, 1890	Ladder House
211 ...	Clerk.....	W. B. Ryan.....	33	Permanent	July, 1892	Ladder House
212	Ladderman	J. O'Hare.....	27	Driver.....	Jan., 1893	117 Chapel Street
213	Laddermn	J. F. McGuinness...	31	Cloth Finisher.	Jan., 1893	34 Floyd Street
214	Ladderman	J. B. Stanton.....	33	Wool Sorter...	Jan., 1893	17 Newball Street
215	Ladderman	J. D. Finnegan.....	28	Clerk	Jan., 1893	185 Lawrence Street
216	Ladderman	J. J. Donohoe	39	Teamster.....	July, 1893	74 Agawam Street
217	Ladderman . . .	W. H. Sullivan	28	Teamster	Jan., 1893	497 Lawrence Street
218	Ladderman	Wm. Gilmore ...	35	Clerk	Jan., 1893	49 Hudson Street

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of Truck Company, No. 1.

Hook and Ladder Truck, built by Buckley and Merritt, of New York, 1 Bangor ladder 65 feet, one 30 feet, two 25 feet, 4 roof ladders, one 35 feet, one 15 feet, one 18 feet, and one 12 feet, 1 door opener, 1 wrench, 4 forks, 2 buckets, 3 lanterns, 4 shovels, 4 bars, 3 horses, 3 harnesses, 3 blankets, 100 feet $\frac{3}{8}$ inch rope, 18 chairs, 3 brooms, 2 wire baskets, 2 stable cans, 5 beds and bedding, 22 badges, 10 set buttons, 8 insignia, 1 three-horse pole, 2 pails, 1 whip, 3 mirrors, 2 clocks, 2 dusters, 3 hooks, 6 rugs, 6 smoke protectors, 4 brushes, 1 jack screw, 12 spittoons, 1 table, and all tools for cleaning horses.

TRUCK COMPANY No. 2, with CHEMICAL ENGINE ATTACHED.

THIRTEEN MEMBERS.

HOUSE ON WESTFORD STREET.

Badge	Rank	Name	Age	Occupation	Joined Dpt	Residence
121 ...	Foreman	D. W. Hilliard	43	Permanent	Aug., 1872	Truck House
120	Clerk	G. W. Alcott	40	Driver	Oct., 1877	Truck House
130 ..	Driver.....	G. A. Dickey	45	Driver, Chem..	Nov., 1888	Truck House
132.....	Ladderman	H. S. Gardner	42	Permanent	May, 1874	Truck House
131....	Ladderman	E. E. Smith... ..	39	Permanent....	Jan., 1890	Truck House
123....	Ass't Foreman.	C. A. Thompson	49	Carpenter	May, 1880	21 Kimball Avenue
125....	Ladderman	G. E. Maynard	36	Carpenter	Oct., 1888	26 East Pine Street
129....	Ladderman . .	L. A. Miller.....	30	Box Maker....	Nov., 1890	17 Lane Street
127....	Ladderman	D. D. Libbee	29	Carpenter	June, 1892	Truck House
128....	Ladderman	C Stackpole.....	38	Clerk	Jan., 1883	425 School Street
126....	Ladderman	S. A. Pickering.....	32	Carpenter	Nov., 1890	22 Branch Street
122....	Ladderman	A. I. Laughton	39	Tinsmith.....	Oct., 1891	34 Pine Street
124....	Ladderman...	Q. A. Foster.	40	Machinist	June, 1889	46 East Pine Street

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of Truck Company, No. 2.

Hook and ladder Truck, built by Jucket & Freeman of Boston, rebuilt by the City, weight 5,000 pounds, single tank chemical engine, rebuilt by City, weight 3,200 pounds, 1 Bangor ladder 55 feet long, two 35 feet ladders, 4 roof ladders, (two 25 feet long and two 30 feet long) one 16 feet ladder, 6 prop hooks, 6 axes, 2 adjustable hooks for roof ladders, 4 shovels, 7 lanterns, 4 forks, 2 rakes, 1 door opener, 3 bars, 200 feet rope, 4 pails, 2 whips, 2 carriage-jacks, 25 chairs, 1 table, 2 mirrors, 3 clocks, 2 dusters, 1 brush, 50 feet $\frac{3}{4}$ inch and 250 feet 1 inch rubber hose, 3 plaster hooks, 1 hay hook, 4 small hay hooks, 2 wrenches, 3 chain dogs, 3 ash cans, 3 stable cans, 1 set blocks, 3 smoke protectors, 20 feet $1\frac{1}{2}$ inch rubber hose, 5 horses, 2 sets double harnesses, 1 single harness, 5 blankets, 5 halter bridles, 1 three-horse hitch or pole, 1 exercise wagon, 8 beds and bedding, 26 badges, 12 set buttons, 4 insignia, and all tools for cleaning horses.

BABCOCK TRUCK COMPANY, No. 3, with CHEMICAL ENGINE ATTACHED.

THIRTEEN MEMBERS.

HOUSE ON PALMER STREET.

Badge	Rank	Name	Age	Occupation	Joined Dpt	Residence
110....	Foreman	F. E. Fuller	44	Permanent.....	May, 1869	Truck House
141....	Ass't Foreman.	H. F. Harris.....	41	Permanent	Nov., 1888	Truck House
112....	Clerk.....	F. O. Townsend,....	39	Driver	May, 1886	Truck House
140....	Ladderman....	Wm. F. Foss.....	29	Permanent	Apr., 1892	Truck House
113....	Ladderman	F. W. Simons.....	42	Permanent	Sept., 1872	Truck House
111....	Ladderman	T. H. Welch.....	36	Permanent ...	Nov., 1887	Truck House
142....	Driver	H. A. Merrill.....	31	Driver, Chem..	June, 1884	Truck House
143....	Ladderman	T. Dwyer.....	30	Permanent	Sept., 1888	Truck House
116....	Ladderman....	W. P. Maker	29	Machinist.....	Sept., 1888	341 L. M. S. Corp.
117....	Ladderman	D. Leary.....	29	Steam Fitter...	Sept., 1892	459 Broadway
118....	Ladderman	H. C. Wilkins.....	35	Clerk	Jan., 1890	13 Wachusett Street
114....	Ladderman	E. Kerwin	44	Piper	May, 1871	10 Cady Street
115....	Ladderman	E. H. Dearth.....	39	Painter	Jan., 1893	6 Carpet Corp.

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of Truck Company, No. 3.

Aerial Truck, built by the Fire Extinguisher Company of Chicago, in 1888, weight 8,100 pounds, 1 two and one three-horse pole, 1 single tank chemical engine, rebuilt by the city, 5 horses, 1 extension ladder (85 feet), one 55 feet, two 16 feet, one 35 feet, one 30 feet, two 20 feet, three 12 feet, one 14 feet, one 24 feet, one 21 feet, and one 19 feet ladders, 1 door opener, 1 bar, 4 iron stakes, 1 sledge, three 100 feet ropes, 2 forks, 2 shovels, 4 hay forks, 6 bale hooks, 1 hammer, 1 wire cutter, 4 buckets, 8 lanterns, 7 axes, 2 monkey wrenches, 1 carriage jack, 1 jack screw, 250 feet 1 inch rubber hose, 50 feet $1\frac{1}{2}$ inch cotton hose, 2 spanners, $2\frac{1}{2}$ kegs of soda, 1 carboy of vitriol, 5 blankets, 1 set of three-horse and 1 set of double harnesses, 1 pair lead bars, 2 tables, 28 chairs, 3 clocks, 9 beds and bedding, 6 spittoons, 6 mops, 6 pails, 1 water cooler, 10 rugs, 2 mirrors, 50 feet $\frac{3}{4}$ inch hose, 2 dusters, 3 brushes, 6 smoke protectors, 28 badges, 13 set buttons, 8 insignia, and all tools for cleaning horses.

TRUCK COMPANY, No. 4.

TEN MEMBERS.

HOUSE ON FOURTH STREET.

Badge	Rank	Name	Age	Occupation	Joined Dpt	Residence
102....	Foreman	H. B. Downs.....	60	Permanent.....	July, 1863	Truck House.
101....	Ass't Foreman.	Wm. Marsden	39	Permanent ...	Feb., 1882	Truck House.
100....	Clerk.....	W. L. Peabody.....	45	Permanent.....	Nov., 1874	Truck House.
105....	Ladderman	R. W. Stickney.....	32	Janitor.....	May, 1889	Post Office Block.
104....	Ladderman	F. C. Lourey.....	27	Carpenter	Nov., 1888	Truck House.
106....	Ladderman	N. Bishop.....	55	Lighter	July, 1855	May Street.
103....	Ladderman	T. McCormick.....	39	Lineman	May, 1886	Albion Street.
109....	Ladderman	T. Conway.....	26	Lineman	July, 1893	14 Tyler Street.
107....	Ladderman	J. W. Adams.....	43	Carpenter	Aug., 1874	161 Central Street.
108....	Ladderman	W. N. Flagg.....	47	Carpenter	Feb., 1881	17 Kirk Street.

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of Truck Company, No. 4.

Hook and Ladder Truck, built by J. H. Swett, Lowell, 5 extension ladders (55, 35, 25, 20 and 10 feet respectively), 2 roof ladders (18 and 20 feet respectively, 1 single ladder 20 feet long, 4 props, 6 hooks, 1 door opener, 1 jimmie, 4 axes, 4 lanterns, 4 shovels, 3 horses, 3 harnesses, 3 blankets, 10 chairs, brooms, 200 feet rope, 2 stable cans, 4 hay hooks, 1 three-horse pole, 1 pair lead bars, 3 smoke protectors, 3 beds and bedding, 22 badges, 10 set buttons, 8 insignia, and all tools for cleaning horses.

PROTECTIVE COMPANY No. 1.

HOUSE ON WARREN STREET.

FIVE MEMBERS.

Badge	Rank	Name	Age	Occupation	Joined Dpt	Residence
80....	Foreman	J. L. Flag	58	Permanent	Feb., 1875	Protective House.
8....	Clerk.....	J. Cowell.....	46	Driver	Dec., 1875	Protective House.
42....	Ass't Foreman	W. H. Halstead	49	Permanent	May, 1864	Protective House.
84....	.....	D. W. Russell.....	40	Permanent.....	Jan., 1885	Protective House.
81....	.....	J. W. Halstead	45	Permanent	Jan., 1872	Protective House.

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of the Protective Company.

1 wagon built by the Abbott-Downing Company, Concord, N. H., 1 traverse runner sleigh, 1 extra pole, 2 extra wheels, 2 horses, 1 set double harnesses, 4 blankets, 2 Johnson pumps, 6 extinguishers, 1 Siamese connection, 20 pounds soda, 125 pounds vitriol, 24 soda cans, 150 vitriol bottles, 8 brooms, 7 shovels, 4 squillgees, 3 iron pails, 3 large sponges, 2 axes, 1 pick, 2 bars, 2 hammers, 36 spikes, 2 augers, 1 lathe rake, 2 monkey wrenches, 12 lanterns, 2 ten-feet folding ladders, 1 Spencer canvass chute and Dixon arrow gun, 2 dust pans, 60 gallon oil tank, 2 oil cans, 5 caps and 5 regulation badges, 5 set buttons, 8 insignia, 6 beds and bedding, 24 chairs, 3 mirrors, 2 clocks, 1 table, 2 bureaus, 1 carpet. 1 water cooler, boiler and radiators, two 10 feet lengths $3\frac{1}{2}$ inch hose, 50 feet $\frac{3}{4}$ inch rubber hose, 50 feet $\frac{5}{8}$ inch rope, 104 rubber covers, 4 ash cans, 2 stable cans, 4 mops, 3 chamois skins, 3 stable pails, 2 carriage jacks, 2 stable brooms, 2 dusters, 2 pair of steps, 2 sets of blocks, 5 spittoons, 2 cells Bradbury Stone Storage Battery for head lights, 2 jimmies, 1 acid pump, 8 smoke protectors, 1 canvass blanket, 1 pair rubber gloves, and all tools for cleaning horses.

FIRE-ALARM TELEGRAPH.

Location—Engine House, Palmer Street.

GEORE B. WHITNEY, OPERATOR.

10 Circuit Automatic Repeater, with Battery of.....	400	Cups
Miles of Line Wire.....	93	
Signal Boxes.....	100	
Engineer's Gongs.....	18	
Engine House Gongs.....	15	
Indicators.....	17	
Bell Strikers.....	10	
Gong and Indicator combined, Police Station.....	1	
Gong in Pumping Station.....	1	
Gong in Merrimack Square.....	1	
Gong at Tower's Corner.....	1	

The strikers are located as follows: Palmer Street Engine House, Varnum School House, High Street Church, Court House, No. 1 Engine House, Franklin School House, Pawtucketville Engine House, No. 6 Engine House, Highland School House and Lawrence Street Engine House.

Magneto Bell Telephone Circuit.

Complete Stations.....	18
Extension Bells.....	22
Miles of Wire.....	40

SCHEDULE OF PROPERTY.

Belonging to the City, in Care of Fire Alarm Operator.

One ten circuit non-interfering automatic repeater, 1 cut out testing switch board, 1 line testing machine, 11 galvanometers, 95 signal boxes, (non-interfering) 10 bell strikers, 17 large gongs, 9 small gongs, 17 registers, 16 electrical arrangements for opening stall doors, 93 miles of wire, 400 cups of battery, 18 magneto call bells, 22 extension bells, 44 miles of wire, 23 electric light current protectors, 1 barrel of glass insulators, 12 pole brackets, 2 saws, 2 hammers, 2 screw drivers, 2 straps with vises, 2 draw straps with clutchers, pliers, tongs, set bits and bit stock, 2 shovels, 2 bars, 1 pick, 2 spoons, 1 tamping bar, 1 cant hook, 1 broad axe, 2 pike poles, 3 pair of climbers, 1 deadman, 3 ladders, 1 draw shave, fire alarm box keys, locks, outside shells, door to boxes, pocket relay, lanterns, desk, table, chairs, duster, chamois skin, 9 barrels blue vitriol, 1 horse, harness, blanket, 3 wagons, sleigh, etc.

SCHEDULE OF PROPERTY.

Belonging to the City, in the Palmer Street Engine House.

One horse, harness, wagon and sleigh for the Chief's use, 1 one-horse hose carriage, 3,500 feet cotton hose, 2 two-way chucks, 2 lathes, grindstone, saw, planer, 2 stable cans, tools, poles, shafts, ladders, feed, salt, boilers and radiators.

In Chief's office: 2 desks, set of drawers, 1 table, 16 chairs, 2 beds and bedding, 1 silver and 2 brass trumpets, mirror, cloth, badges, 3 set dies for department buttons, 1 set dies for department badge, 1 large clock (Lawrence Patent), 1 small stop clock, chamois skins, dusters, soap, brooms, brushes, lanterns, medicines, sponges, matches, axle grease, etc.

The value of the foregoing property is \$154,000.00.

Location of Signal Boxes.

- 4—Dutton Street, opposite Parker & Cheney's.
- 5—Corner of Cushing and Fletcher Streets.
- 6—Corner of Broadway and Mt. Vernon Streets.
- 7—Corner of Market and Dutton Streets.
- 8—Corner of Westford and School Streets.
- 9—Corner of Common and Salem Streets.
- 12—Market Street, Police Station.
- 13—Corner of Prescott and Merrimack Streets.
- 14—Corner of Fayette and Andover Streets.
- 15—Bleachery Street, on Bleachery stable.
- 16—Hosford Square.
- 17—Corner of Middlesex and Walker Streets.
- 18—Junction of Hale and Lincoln Streets.
- 19—Corner of Gorham and Union Streets.
- 21—Corner of Kirk and Merrimack Streets.
- 23—Corner of Coburn Street and Lakeview Avenue.
- 24—Corner of Middlesex and South Streets.
- 25—Merrimack Street near Tremont House.
- 26—Corner of Fletcher and Pawtucket Streets.
- 27—Corner of Riverside Street and Mammoth Road.
- 28—Corner of Hall and Aiken Streets.
- 29—Corner of Tenth and Myrtle Streets.
- 31—Corner of High and East Merrimack Streets.
- 32—Corner of Bridge and Tenth Streets.

- 33—Corner of Broadway and Walker Streets.
- 34—Lincoln Street, on Tannery.
- 35—Corner of Charles and Lawrence Streets.
- 36—City Farm, on pole.
- 37—Corner of Whipple and Kinsman Streets.
- 38—Fair Grounds, on building.
- 39—Corner of Fletcher Street and Broadway.
- 41—Corner of Wyman and Nesmith Streets.
- 42—Middlesex Street, old engine house.
- 43—Highland Street, Edson School House.
- 45—Engine house, Branch Street.
- 46—Corner of First and Bridge Streets.
- 47—Andover Street, near B. F. Butler's driveway.
- 48—Corner of Dover and Grove Streets.
- 49—Corner of Nesmith and Chestnut Streets.
- 51—Junction of Gorham and Thorndike Streets.
- 52—Corner of Moody and Austin Streets.
- 53—Central Street, near Boston & Maine Depot.
- 54—School Street, near Gas Works.
- 56—Middle Street Engine House.
- 57—Warren Street, opposite George Street.
- 61—Lawrence Street, above Stott's Mills.
- 62—Corner of Bowers and School Streets.
- 63—Corner of Hale and Howard Streets.
- 64—Corner of Third and Myrtle Streets.
- 65—Lakeview Avenue, near Aiken Street Bridge.
- 67—Hildreth Street, opposite Lilley Avenue.
- 68—Corner of Sixth and Fremont Streets.
- 71—Middlesex Village, on pole opposite Hotel.
- 72—Middlesex Street, opposite Huntoon's stable.
- 73—Mammoth Road, near City Line.
- 74—Varnum Avenue.
- 81—Corner of Pine and Wilder Streets.
- 82—Corner of Chelmsford and Grand Streets.

- 83—Corner of Powell and Smith Streets.
- 84—Corner of Westford and Gates Streets.
- 85—Corner of Pine and Marlborough Streets.
- 92—Bridge Street, opposite Whitney's.
- 114—Corner High and Porter Streets.
- 115—Corner Moore and South Whipple Streets.
- 121—Western Avenue, near Railroad Crossing.
- 125—Market Street, opposite Lewis Street.
- 126—Corner Mt. Washington and Varney Streets.
- 127—Corner Mammoth Road and Woodward Avenue.
- 128—Counting Room of the Tremont & Suffolk Mills (private)
- 129—Corner of Beacon and Methuen Streets.
- 131—Corner of East Merrimack and Howe Streets.
- 132—Pumping Station.
- 134—Corner of Main and Plain Streets.
- 135—Perry Street, Electric Light Station.
- 136—Corner of Stevens and Parker Streets.
- 138—Corner of Lundberg and Gorham Streets.
- 139—Corner Cross and Adams Streets.
- 141—Corner of Fairmount and Talbot Streets.
- 143—Hood's Laboratory. (private)
- 145—Corner of Middlesex and School Streets.
- 149—Corner of Alder and Bartlett Streets.
- 152—Corner of Merrimack and Spaulding Streets.
- 161—Faulkner's Mills (private)
- 162—Pawtucket Street, opposite ice houses.
- 163—Tanner Street, near Scannell & Wholey's.
- 165—Corner of Lakeview Avenue and Fred Street.
- 171—Corner of Middlesex and Pawtucket Streets.
- 172—Corner of Appleton and Favor Streets.
- 181—Corner of Stevens and Westford Streets.
- 182—Corner of Chelmsford and Westford Streets.
- 183—Corner of Mason and South Loring Streets.
- 185—Corner of Pine and Westford Streets.

- 214—Corner of Nesmith and Rogers Streets.
- 215—Meadowcroft Street, near Bolt Street.
- 225—Corner of Little and Lewis Streets.
- 235—White's Tannery (private)
- 241—Rogers Street.
- 249—Corner of East Merrimack and and Stackpole Streets.
- 271—Lowell & Suburban Railway Power Station.
- 283—Corner of Chelmsford and Forest Streets.

Instructions to Key-Holders.

Alarms are to be given from boxes nearest the location of the fire.

Upon the discovery or positive information of a fire, you will unlock the box, pull down the slide or hook once only, and let go.

If you hear no sound from the bell, pull again; if you fail the second time go to the next nearest box and do the same. Also, be particular to remain at the box until the arrival of the Engineer, who will release the key.

Each box contains a small bell, which if heard, indicates that the alarm has been given from another box. In such a case do not pull the box until the alarm has been completed.

Never signal for a fire seen at a distance. Never touch the hook except to give an alarm of fire. Give an alarm for no cause than an actual fire.

Second alarm for the same fire will be given only by the Engineers.

Never let the key out of your possession unless called for by the Chief Engineer. If you change your place of business or residence where the key is kept return it to the same officer.

Keys to the boxes are in the possession of responsible parties in the vicinity of the boxes; also in the hands of the police.

Citizens are requested to inform themselves where the keys of signal boxes are kept. A large number of boxes have been furnished with a key in an iron box with a glass front, which in a few cases had to be taken out, on account of boys breaking the glass.

General Running Orders.

The companies will respond to alarms of fire given from boxes as indicated on running card.

The Chief, First Assistant and Protective Company will answer alarms from all boxes.

Members of companies who do not respond to first alarms, will report to their respective houses and await orders. Should a second or third alarm be not received within thirty minutes, the officer in command will have the roll called and dismiss his men. If the recall is sounded before the expiration of the time stipulated above the officer will dismiss the men. After a second alarm has been given the members of the companies not responding to it will remain on duty at their respective houses, until the recall is sounded. If there are no companies remaining in quarters that respond to alarms given from other boxes after the first alarm has been given and before the recall is struck, one engine, one truck, chemical and two hose companies, remaining in quarters nearest to the box giving the alarm, will respond immediately. This article applies to all alarms except in case of telephone or still alarms. The engine will not respond. After a second alarm is given, all companies remaining in quarters will respond immediately before the recall is sounded.

In case where two alarms may have been given, from different boxes, the second box having struck before the recall from the first box, the recall from the first box will be two blows, from the second box one blow.

The all out or recall signals will be given by striking two blows with an interval of ten seconds between the blows.

Second alarms will be given by striking two blows, followed by one round of the box giving the first alarm.

Third or general alarm will be given by striking three blows, followed immediately by one round of the box, when all companies will respond immediately.

Second or third alarms will be given only by special orders of the Chief or Acting Chief.

Two strokes repeated two times at 1-4 before 8 A. M., and 1-4 past 1 P. M., in the summer, and 1-4 before 8 A. M., and 1-4 before 1 P. M., in winter denotes no session of the Primary and Kindergarten schools, the same alarm repeated in thirty seconds denotes no session of all the schools.

The same alarm at 6.30 P. M., in winter denotes no session of the Evening schools.

COMPANIES RESPONDING TO TELEPHONE ALARMS.

DISTRICT No. 1.—North of Hale's Brook, west of B. & L. R. R., to and including Westford Street, to city line. Hose 2 and 9, Truck 2 and Chemical C.

DISTRICT No. 2.—North of Westford Street, west of B. & L. R. R. to Pawtucket Canal, to School Street, to but including Sargent, Wannalancit to Pawtucket Street except Pawtucket Street and Middlesex Village. Hose 2 and 8, Truck 2 and Chemical C.

DISTRICT No. 3.—Pawtucket Street from Wannalancit, Middlesex Village to city line. Hose 2 and 5, Truck 2, and Chemical C.

DISTRICT No. 4.—Wannalancit to Sargent, to Varney, to Fletcher, to Merrimack River. Hose 5 and 6, Truck 2, and Chemical C.

DISTRICT No. 5.—North of Pawtucket Canal. Dutton Street to Broadway, to Suffolk Street, to Merrimack River, to but not including Fletcher, Varney and School Streets, to Pawtucket Canal. Hose 6 and 8, Truck 3, and Chemical B.

DISTRICT No. 6.—Dutton Street from Merrimack River, to but not including Broadway, and Suffolk Street, to Merrimack River. Hose 3 and 8, Truck 3 and Chemical B.

DISTRICT No. 7.—Centralville. Hose 3 and 10, Truck 4, and Chemical B.

DISTRICT No. 8.—East of Dutton Street, from Merrimack River to Pawtucket Canal, to Concord River, to Merrimack River. Hose 3 and 10, Truck 3, and Chemical B.

DISTRICT No. 9.—Belvidere north of Andover Street. Hose 3 and 4, Truck 4, and Chemical B.

DISTRICT No. 10.—Belvidere south of, but not including, Andover Street. Hose 4 and 7, Truck 1, and Chemical B.

DISTRICT No. 11—South of Pawtucket Canal, Concord River to Rogers, Wamesit, Elm and South Streets to Pawtucket Canal. Hose 3 and 7, Truck 3, and Chemical B.

DISTRICT No. 12—West of, but not including South Street, from Pawtucket Canal to Highland Street, to B. & L. R. R., to Pawtucket Canal. Hose 2, and 7, Truck 2, and Chemical C.

DISTRICT No. 13—East of B. & L. R. R., Robinson to Congress, to Gorham, to Central, to Crosby, to Newhall, to Watson, to Concord River, to but not including Rogers, Wamesit, Elm and Highland Streets, to B. & L. R. R. Hose 7 and 11, Truck 1, and Chemical C.

DISTRICT No. 14—East of B. & L. R. R., south of but not including Robinson, Congress, Gorham, Central, Crosby, Newhall and Watson Streets, to Concord River, to Lawrence Street, to city line. Hose 1 and 11, Truck 1, and Chemical C.

DISTRICT No. 15—West of B. & L. R. R., south of Hale's Brook, to city line. Hose 1 and 9, Truck 2, and Chemical C.

The Protective Company will respond to all alarms.

ANNUAL REPORT

OF THE

SUPERINTENDENT OF STREET LIGHTS

OF THE

CITY OF LOWELL,

FOR THE YEAR 1893.



LOWELL, MASS.

DAILY NEWS JOB PRINT, HILDRETH BUILDING

1894.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, January 16, 1894.

Received and ordered on file.

MICHAEL J. DOWD, City Clerk.

REPORT.

LOWELL, January 1, 1894.

To the Mayor and Board of Aldermen :

GENTLEMEN:— Herein is submitted the Annual Report of the Superintendent of Street Lights, for the year ending December 31, 1893. The working force under the direction of the Superintendent (Chief of Fire Department), consists of thirteen men, one of whom acts as foreman. They have in addition to their regular duties of lighting and cleaning the gas lamps, set up and fitted 33 gas and 78 gasoline posts, have removed 78 gas and 36 gasoline posts on account of the electric lights. They have replaced 4 gas and 5 gasoline posts that have been broken, replaced 10 lantern frames, set 1040 lights of glass and 57 globes. All the lamp posts have been painted the past year.

There are at present 787 gas lights; in addition there are 39 lights owned and maintained by the different corporations, the city paying for the gas consumed. These lights are lighted and put out according to the time designated by a

card issued by the Superintendent monthly. These lights average about seven hours a night and burn 4, 6, 12 and 18 feet per hour according to location. There have been 33 new gas lights added and 78 discontinued on account of electric lights the past year.

The location of the gas lights added the past year are as follows: Sargent and Rea streets 3 each, Warwick, Newhall, Rolfe, and South Wilder streets and Cumberland road 2 each, Pleasant, Porter, Howard, D, Beech, Eighteenth, Westford, Wannalancit, Boylston, Railroad, Coburn, Barclay, Pollard streets, Third, Greenwood, Winthrop avenues and Branch place 1 each.

The Globe Gas Light Company of Boston, agrees by contract to furnish all lanterns and glass and keep and maintain their lights in good order, with a light equal to a five foot burner, at six cents per light a night, they to have no less than twenty-five nights per month and to burn until one o'clock. These lights as a rule are located on streets where there are no gas mains, and are replaced with gas as soon as gas mains are laid.

There are 502 gasoline lights at present, 78 new ones having been added and 36 replaced by gas and electric lights the past year.

The new ones are located as follows: Rear of Gorham street beyond the Fair Grounds 13, Wood street 4, Middlesex street and vicinity 8, Westford

street beyond Pine street 10, Carlisle street 6, Stevens street 4, Thompson and Ward streets and Holyrood avenue 3 each, South Wilder, Pleasant, Spencer, Billings and Coburn streets, Varnum avenue and Carpet Lane 2 each, Mammoth road, Coburn avenue, Keene, Decatur, Fred, C, Court, West, Hildreth and Oakland streets 1 each.

"The contract with the Lowell Electric Light Corporation expired last August, a new contract was made for five years. The following is a copy of the said contract :

"THIS AGREEMENT, made and entered into this thirtieth day of August, A. D., 1893, by and between the City of Lowell, a municipal corporation in the Commonwealth of Massachusetts, and the Lowell Electric Light Corporation, duly established by law and doing business in said City of Lowell,

"WITNESSETH:—

"That the said Lowell Electric Light Corporation, in consideration of the agreements and promises of said City hereinafter contained, and of other valuable considerations by it received from said city, hereby covenants and agrees with the said city that it will furnish for a period of five years from the first day of August, A. D. 1893, three hundred and twenty-five electric arc lamps as are now located in said city, also all the arc lamps situated in Huntington and Jackson Halls, in said city, and as many more arc lamps, both in said city and Halls, as the Committee on Lighting of said city, during the continuance of this contract

shall order; such additional arc lamps to be located in said city at such points and places as the said committee may order and direct, and the Mayor and Board of Aldermen approve; that during such period it shall furnish all poles, wires, apparatus and fixtures required for said lamps, and such additional lamps if any, and provide and maintain said lamps, repair, paint and maintain the lamp poles and all supporting poles, hoods and supports for the lamps, and operate, clean and care for said lamps in all respects in strict conformity with the following conditions, which are made a part of this agreement, and to be observed and performed by the said Lowell Electric Light Corporation.

CONDITIONS.

"The said lamp or lamps shall be what is commonly known as a two-thousand-candle-power light, of such candle power as will be obtained when each and every lamp in all the circuits in the service of said city shall give from nine and six-tenths to ten amperes or electrical units, from forty-five to fifty volts of electrical pressure but at no time shall the electrical power of each lamp be less than four hundred and fifty watts; and it is understood and agreed that in case the "World's Electrical Congress" should at any time during the continuance of this contract adopt as the standard for arc lights a number of watts greater than that specified, then the said corporation shall immediately furnish the number of amperes, or electrical units and increase the electrical pressure in each lamp

in the service of the city, to the number of volts necessary to produce the number of watts adopted as the standard for arc lights by the Electrical Congress aforesaid.

"Each and every arc lamp furnished under this contract shall be supplied by said corporation with carbons of the best quality and of the size best adapted to give the highest candle power, with globes of clear glass free from spots or rings; said globes to be kept clean and whole, free from dust and dirt, and said lamps to give a clear, steady, white light without undue flickering or hissing.

"The lamps shall be operated continuously each and every night during the continuance of this agreement, and shall be started thirty minutes after sunset and kept in operation until thirty minutes before sunrise; in case of unusual darkness due to storm or otherwise, said lamps shall be started at sunset and kept in operation until sunrise, and the time of sunset or sunrise for the purposes of this contract shall be determined by the "Old Farmer's Almanac;" globes that may become broken shall be replaced by sound ones each day before starting the lights. If the said committee shall request any of the globes changed, such change shall be made at once and the positions, manners of hanging, height above pavement shall be determined by said Committee on Lighting, and all lamps, wires and other conductors shall be thoroughly insulated and so placed as not to expose the public or property to danger, or to unnecessarily interfere with the work of the Fire Department in case of fire.

"In case the Superintendent of Streets shall determine that any of the lamp posts, supporting posts or apparatus connected therewith, require repairing, owing to an unsightly or dangerous condition, the same shall be repaired at once or within twenty-four hours after notice from the Superintendent; and if not so repaired, said Superintendent may make the repairs and the expense thereof shall be deducted from any amount due hereunder.

"And the said Lowell Electric Light Corporation further agrees to indemnify and save harmless the said city from any and all loss, cost or damage that it may suffer by reason of any infringement suits, or by reason of any infringement of any patent right, in the use of said lamps and lights or the apparatus, fixtures, machinery or methods connected or used in connection therewith, and from all claims, liability, or demands, that shall be caused by the erection, maintenance or use of said lamps, or the poles, wires or appurtenances connected therewith, or from any defect therein or by the carelessness of said corporation, its agents or servants, in the operation or management of said lamps; if the said city shall relocate any of the poles or lamps, the expense of the labor shall be paid by said city, but not of the materials and other expenses in making such change.

"And the said City of Lowell upon its part covenants and agrees to pay said Lowell Electric Light Corporation, in the event that said Corporation furnishes according to the terms of this agreement the number of lights herein before mentioned, and such number in excess thereof as the

Schedule of property belonging to the city, under the charge of the Superintendent of Street Lights, January 1, 1894:

Seven hundred and eighty-seven street lights and three hundred and eighty-three lamp posts capped and piped, ready for use, decapitated on account of electric lights, five hundred and two wooden posts and frames used for gasoline purposes, 1 horse, 2 wagons, 1 robe, 2 blankets, 2 sleighs, 3 harnesses, 1 collar and hames, 94 lanterns, 13 ladders, 4 frames, 1 air pump, 1 saw, 2 oil cans, 36 globes, 1 sixty gallon oil tank, 1 match box, 1 stove, 1 boiler connection, 1 Colcord desk, 1 table, spittoon, coal hod, 8 shovels, 5 picks, 3 bars, 2 tamps, 3 monkey wrenches, 2 boxes of glass, 40 feet of hose, 1 1-8, 1-2 and 3-4 inch dies, 3 pipe cutters and necessary pipe fittings, 250 feet 3-4 inch pipe, 2 pairs 3-4 inch pipe tongs, 1 diamond glass cutter, ton of coal, 2 lanterns, 1 spirit level, 12 torches, bench, vise, 10 gallons of alcohol, 2 forks, 4 wooden posts, and 1 1-2 dozen pipe fittings, 1-2 ton of hay, 7 gallons paint, etc.

The value of the above property is about \$25,000.00.

Respectfully submitted,

EDWARD S. HOSMER,

Superintendent.

The following statement will show the Receipts and expenditures :

RECEIPTS.	
Balance January 1, 1893.....	\$ 1,305 34
Appropriation.....	60,000 00
Loan	8,000 00
Received from other sources.....	423 22
\$69,728 56	
EXPENDITURES.	
Pay roll.....	\$ 8,715 00
Lowell Electric Light Corporation	\$41,124 97
Streets	
Huntington Hall.....	373 46
Old City Government Building.....	169 99
New City Government Building.....	338 11
Memorial Hall.....	42 76
Precinct Booths.....	152 00
42,201 29	
Lowell Gas Light Company.	Streets
Huntington & Jackson	Halls
New City Hall.....	87 45
Old City Hall.....	368 28
Armories.....	12 65
Ward Rooms.....	57 29
Dep't Headquarters.....	2 64
Milk Inspector.....	27 33
7,168 43	
Globe Gas Light Company.....	8,609 10
Hay, Grain, Waste, Glass, Paint, Lanterns, Posts, Frames, Water, etc.....	2,341 64
Total expenditure for the year 1893 .	\$69,035 46
Balance undrawn, Dec. 31, 1893.....	693 10
\$69,728 56	

"IN WITNESS WHEREOF, the City of Lowell, by John J. Pickman its Mayor, and the Lowell Electric Light Corporation, by John McAlvin its Treasurer, both of said officers being hereunto duly authorized, have caused these presents to be signed and sealed in duplicate on the day and year above written."

CITY OF LOWELL, by John J. Pickman.
 LOWELL ELECTRIC LIGHT CORPORATION,
 by John H. McAlvin, its Treasurer.
 J. J. HOGAN, City Solicitor.
 F. W. PURFER, Jos. A. McDONALD,
 Committee on Lighting.

One hundred and nineteen lights have been located by the Committee the past year, but only sixty-eight of them are in operation yet. The others will be running by February 1st.

The location of these lights are as follows: Middlesex street ten, Chelmsford street five, Westford street four, Powell, Cushing, Hale and Tenth streets three each, Worthen, Ward, Myrtle, Central Charles, Thirteenth and Beacon streets and Broadway two each, Prescott, Bridge, Lawrence, Liberty, Coolidge, Cheever, Howe, Mansur, Cross, Elm, Coburn, Walker, Jackson, Anne, Pine, Crosby, High, Sherman, First, Sixth and Eighth streets one each. The whole number of lights up to date are

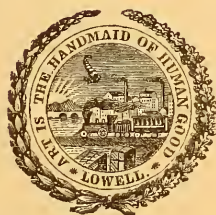
as follows:

Electric.....	336
Gas.....	787
Gasoline.....	502
	1625

Committee on Lighting with the approval of the Mayor and Aldermen, may determine, at the rate of thirty-six cents per light for and during the first year of this agreement, and thirty-five cents per light for the four succeeding years thereafter, for every whole night that the lamps are lighted, and to make payment on the tenth day of each and every month of the sum due for the calendar month next preceding; and it is understood and agreed that if any of the lights fail to burn for any of the time they should be lighted, a pro rata allowance shall be made for such time as shall be reported by the police or Superintendent of Lighting as not burning, such sums to be deducted from the amount due the said Corporation.

"It is further agreed that the said Committee on Lighting, or the Superintendent of Lighting, is hereby authorized to make such tests to determine the electrical power of the lamps furnished under this agreement as they or he may deem necessary; and it is further understood and agreed that should any two consecutive tests made by such Committee or Superintendent in any one month, show a less number of volts, amperes or watts in any circuit in the service of said city, than is herein provided the said city may deduct such a sum from the amount due to said corporation for the lights in such circuit for the month in which the said deficiency is found, as shall be proportionate to the shortage in the volts, amperes or watts found by the said tests when compared with the standard volts, amperes or watts herein provided.

ANNUAL REPORT
OF THE
SUPERINTENDENT
OF
PUBLIC BUILDINGS,
OF THE
CITY OF LOWELL,
FOR THE YEAR 1893.



LOWELL, MASS.
DAILY NEWS JOB PRINT, HILDRETH BUILDING.
1894.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, March 20, 1894.

Received and ordered on file. Sent down for concurrence.

MICHAEL J. DOWD, City Clerk.

IN COMMON COUNCIL, March 20, 1894.

Received and ordered on file, in concurrence.

FRANK J. SIMONDS, Clerk.

REPORT.

OFFICE OF SUPERINTENDENT OF PUBLIC BUILDINGS }
LOWELL, MASS., March 1, 1894. }

*To His Honor the Mayor, and Gentlemen of the City
Council of the City of Lowell :*

GENTLEMEN :—

In compliance with section two, chapter five, of the Ordinances of the City of Lowell, I respectfully submit the report of the departments under my charge for the year ending December 20, 1893.

SCHOOL HOUSES.

HIGH SCHOOL BUILDING.

This building was occupied by the High School scholars in October, the building being completed at that time, with the exception of the chemical laboratory which was finished in December. This building consists of sixteen school rooms, 29 feet 4 inches x 34 feet 4 inches, there being eight rooms on the first and second floor each; on the third floor there is a chemical laboratory, chemical lecture room, physical laboratory and physical lecture room of the same

size as the school rooms. There is also an assembly hall on this floor which is 85 feet x 75 feet x 30 feet high. This building as completed is one of the finest in the State, and has been built with every convenience for the teachers and pupils.

NEW MOODY SCHOOL.

This building was finished and turned over to the School Department in April. It consists of twelve school rooms, six on each floor, and an assembly hall on the third floor. The total cost of this building with land was \$81,734.31.

OAKLAND SCHOOL.

The Oakland school is a four room school, which has been finished the last year, the total cost of the building with land being \$10,139.08.

CHELMSFORD STREET SCHOOL.

This is an eight-room school with an assembly hall, is built of brick with granite trimmings. The building is now ready for the plasterers and will be finished in time for the September term of school.

ADDITION TO BUTLER SCHOOL.

There has been started a four room addition to the Butler School. The roof is now on and slated, and the interior will be finished so it can

be used at the opening of the fall term. With this addition it will make a twelve-room school building.

REPAIRS ON OLD SCHOOL BUILDINGS.

The amount of repairs on old buildings the last year have been as extensive as any for several years. The largest expenditure on any one of the old buildings being at the Highland School, where the third floor has been finished and a large assembly hall built. This was done in answer to a petition of several hundred citizens of Ward Four asking for the same.

At the Green School there have been new floors laid in eight rooms and in the hallways.

The High Street School has been painted outside

New windows have been put in the Varnum School, which improve the looks very much; the building has been painted outside also.

The West Sixth Street school has been piped for steam and a new boiler put in, which takes the place of stoves. There have been two rooms colored.

The Fayette Street school has been painted outside; also the Pond Street school.

At the Tenth Street school there has been steam put in, also new water closets in the basement. With steam in this building and West Sixth

Street school, we have no school heated by stoves larger than two rooms.

At the School Street school new floors have been laid in two rooms.

There has been one room finished at the Weed Street school. This is a four-room school but there have been only three rooms finished until this year.

The Agawam Street school has had a new boiler and piped for steam, and has been whitened throughout.

At the Plain Street school there have been new vaults put in, and the building has been painted outside.

The Edson school has been thoroughly remodeled, the roof has been reslated, there have been new blackboards throughout, new floors have been laid, new sheathings, and the building has been painted inside and outside.

PUBLIC BUILDINGS.

There have been no new houses started in this department this year. We have finished the new hospital and addition to insane department at the City Farm, built a new boiler house and chimney, and done such work as was needed on the old buildings.

The total amount expended at the farm by this department for the last year was \$13,212.00.

At the Water Works we have laid new floors and done the general repairs.

The Lawrence Street Engine House has been colored and painted inside.

The Engine House on Fourth Street has had new water closet and wash bowl, and the floors have been repaired.

Engine House on Branch Street has had new stalls put in and old stalls replanked.

There has been a great deal of trouble at the Engine houses caused by the manure rotting the beams, and in order to avoid it, I have had all the stall gutters connected with the sewer, and the Chief of Fire Department has the manure removed from the building every day. This has remedied the matter, and the cellars are now in better condition than they have been in years.

The balance of the buildings have received such repairs as was necessary.

I submit herewith a table of receipts and expenditures on the buildings under my charge:

HIGH SCHOOL BUILDING.

Balance January 1, 1893.....	\$58,676 82	
Receipts	16,805 92	
Paid on contracts		*\$72,946 48
Balance January 1, 1894.....		2,536 26
	\$75,482 74	\$75,482 74

*To this amount add \$126,330.13 expended previous to January 1, 1893, making a total cost of Lands and Buildings to December 31, 1893, \$199,276.65.

CHELMSFORD STREET SCHOOL.

Balance January 1, 1893.....	\$53,010 59	
Receipts	6 24	
Paid on contracts.....		*\$33,596 32
Balance January 1, 1894.....		19,420 51
	<u>\$53,016 83</u>	<u>\$53,016 83</u>

*To this amount add \$6,989.73 expended previous to January 1, 1893, making a total cost of Lands and Buildings to December 31, 1893, of \$40,586.10.

SCHOOL HOUSES (ORDINARY.)

Balance January 1, 1893.....	\$10,634 18	
Appropriation	25,000 00	
Sale of Old Moody School.....	9,990 75	
Loan	8,000 00	
Janitors' pay roll.....		\$19,098 37
Balance paid on New Moody school		11,673 34
Repairs at Edson school.....		1,294 14
Repairs at Green school.....		485 00
Repairs at Highland school and hall..		2,287 63
Repairs on other buildings.....		12,142 18
Bills not chargeable to any school.....		3,814 00
Bills receivable.....		1,142 00
Balance January 1, 1894.....		1,688 27
	<u>\$53,624 93</u>	<u>\$53,624 93</u>

PUBLIC BUILDINGS.

Balance January 1, 1893.....	\$ 1,725 71	
Appropriation	15,000 00	
Superintendent's salary		\$1,600 00
Clerk, office and committee expenses..		1,893 62
Board of horses.....		520 00
Expended on wagons and new wagons..		418 65
Stock purchased for shop.....		2,157 00
<i>Amounts carried forward.....</i>	<i>\$16,725 71</i>	<i>\$ 6,589 27</i>

<i>Amounts brought forward</i>	\$16,725 71	\$6,589 27
Repair on old buildings		8,065 31
Bills receivable.....		1,894 17
Balance January 1, 1894.....		176 96
	<u>\$16,725 71</u>	<u>\$16,725 71</u>

Respectfully submitted,

RICHARD BRAY,

Superintendent Public Buildings.

CITY OF LOWELL.

ANNUAL REPORT

OF THE

CHIEF OF POLICE,

TO THE

CITY COUNCIL

FOR THE YEAR ENDING NOVEMBER 30, 1893.



1893 :

BUTTERFIELD PRINTING & BINDING COMPANY,
46 MIDDLE STREET, LOWELL, MASS.

YEARLY REPORT
—OF—
CHIEF OF POLICE
FOR 1893.

IN BOARD OF ALDERMEN, December 5, 1893.

Received and ordered on file. Sent down for concurrence.

MICHAEL J. DOWD, *City Clerk*.

IN COMMON COUNCIL, December 20, 1893.

Received and ordered on file in concurrence.

FRANK J. SIMONDS, *Clerk*.

ANNUAL REPORT.

OFFICE OF CHIEF OF POLICE. }
December 1, 1893. }

*To the Honorable the Mayor and City Council of the
City of Lowell.*

GENTLEMEN.—I have the honor to submit the Annual Report for the Police Department for the year ending November 30, 1893, containing statistics showing what has been done during the past year. I have also presented such suggestions and recommendations as seemed to me pertinent and calculated to improve the efficiency of the department.

The following is a statement of the different offences for which arrests were made, and the number of arrests for each offence:

Whole number admitted for lodging.....	6891
Males.....	6833
Females.....	58
Americans.....	3663
Foreigners.....	3228
Minors.....	207
Non-Residents.....	6849
Colored.....	14

Whole number arrested.....	5635
Males	4740
Females.....	895
Americans.....	2311
Foreigners	3324
Minors	545
Non-Residents.....	1062
Colored.....	12

CAUSES OF ARRESTS.

Adultery	23
Assault and battery	297
Assault, felonious.....	6
Assault on officer.....	7
Bastardy	18
Breaking and entering.....	77
Breaking and entering, attempt.....	4
Breaking glass.....	12
Capias for default.....	11
Capias from superior court.....	5
Cruelty to animals.....	11
Drunkenness, simple.....	4005
Drunkard, common.....	98
Disturbing the peace.....	45
Delirium Tremens.....	33
Embezzlement	29
Escaped prisoner.....	22
Evading car fare.....	4
Food law, violation of.....	4
Forgery	3
Fornication.....	21
False pretenses, obtaining money by	11
False answers to stable keeper.....	1
Horse, unlawfully taking and driving.....	19
Insane	23
Larceny.....	268
Larceny from the person.....	9

Larceny from a building.....	12
Lewd and lascivious.....	5
Liquor, unlawfully keeping.....	52
Liquor nuisance.....	22
Lord's day, violation of.....	7
Lord's day, playing game on.....	21
Mortgaged property, conveying.....	4
Mortgaged property, concealing.....	8
Malicious mischief.....	16
Murder.....	1
Polygamy.....	1
Rape.....	2
Rape, attempt.....	1
Receiving stolen goods.....	4
Robbery.....	2
Stubborn children.....	27
Suspicious persons.....	84
Safe keeping.....	5
Threatening language.....	20
Trespass, wilful.....	26
Truancy.....	20
Vagrancy.....	18
Wandering about streets.....	23
Unlawfully removing baggage.....	16
Unlawfully bathing.....	4
Neglect of families.....	43
Violating health law.....	12
Violating milk law.....	15
Obstructing streets.....	15
Profanity.....	13
Disorderly conduct in R. R. car.....	1
Discharging firearms.....	20
Ringing false alarm of fire.....	1
Selling obscene literature.....	2
Violating game law.....	1
Suspicion of poisoning.....	1
Common nuisance.....	1
Assuming to be an officer.....	1

Obstructing a funeral.....	2
Being present at a game on Lord's day.....	7
Selling at auction without license.....	1
Playing ball in street.....	1
Driving hack without license.....	2
Refusing to pull up an awning.....	3
Violating fire escape law.....	1
Common railer and brawler.....	1
Disturbing religious meeting.....	2
Discharging fire crackers.....	9
Contempt of court.....	2
Held as witness.....	1
Common night walker.....	3
Obstructing an officer.....	2
Assault with a knife.....	2
Illegally voting.....	2
Stopping R. R. train.....	2

PROSECUTIONS.

Adultery.....	23
Assault and battery.....	289
Assault, felonious.....	3
Assault on officer.....	7
Bastardy.....	18
Breaking and entering, attempt.....	4
Breaking glass.....	9
Capias for default.....	10
Cruelty to animals.....	11
Drunkenness, simple.....	2220
Drunkard, common.....	98
Disturbing the peace.....	39
Embezzlement.....	28
Escaped prisoner.....	12
Evading car fare.....	4
Food law, violation of.....	4
Forgery.....	3
Fornication.....	20
False pretenses, obtaining money by.....	9

False answers to stable keeper.....	1
Horse, unlawfully taking and driving.....	19
Larceny.....	245
Larceny from the person.....	9
Larceny from a building.....	12
Lewd and lascivious.....	5
Liquor, unlawfully keeping.....	52
Liquor nuisance.....	22
Liquor seizures.....	78
Lord's day, violation of.....	7
Lord's day, playing game on.....	21
Mortgaged property, conveying.....	3
Mortgaged property, concealing.....	8
Malicious mischief.....	15
Murder.....	1
Polygamy.....	1
Rape.....	2
Rape, attempt.....	1
Receiving stolen goods.....	4
Robbery.....	2
Stubborn children.....	25
Threatening language.....	20
Trespass, wilful.....	25
Truancy.....	20
Vagrancy.....	16
Wandering about streets.....	23
Unlawfully removing baggage.....	16
Unlawfully bathing.....	4
Neglect of families.....	40
Violating health law.....	12
Violating milk law.....	15
Obstructing streets.....	13
Profanity.....	12
Disorderly conduct in R. R. car.....	1
Discharging firearms.....	19
Ringing false alarm of fire.....	1
Selling obscene literature.....	2
Violating game law.....	1

Common nuisance.....	1
Assuming to be an officer.....	1
Obstructing a funeral.....	2
Being present at a game on Lord's day.....	7
Selling at auction without license.....	1
Playing ball in street.....	1
Driving hack without license.....	2
Refusing to pull up an awning.....	3
Violating fire escape law.....	1
Common railer and brawler.....	1
Disturbing religious meeting.....	2
Discharging fire crackers.....	9
Contempt of court.....	2
Held as witness.....	1
Common night walker.....	3
Obstructing an officer.....	2
Assault with a knife.....	2
Illegally voting.....	2

Amount of money taken from and returned to persons
 arrested \$8,123.60

Number city ordinance cases for the following offences.... 87

Truancy.....	20
Wandering about streets.....	23
Obstructing street.....	15
Unlawfully bathing.....	4
Driving hack without license.....	2
Refusing to pull up an awning.....	3
Playing ball in street.....	1
Discharging firearms.....	19

Number found not guilty by court for following offences.. 46

Keeping liquor.....	2
Liquor nuisance.....	1
Breaking and entering.....	3
Assault and battery.....	17
Larceny.....	5

False pretence.	2
Violating health law.	1
Receiving stolen goods.	1
Malicious mischief.	1
Obstructing a funeral.	1
Conveying mortgaged property.	4
Vagrant.	1
Cruelty to horse.	1
Stubborn child.	1
Forgery.	1
False answer to stable keeper.	1
Attempt to break and enter.	2
Unlawfully removing baggage.	1

MISCELLANEOUS REPORTS.

Defective streets and sidewalks.	438
Defective lamps and burners.	2896
Obstructions removed from streets.	424
Wagon calls.	4160
Arrests by wagon.	5024
Assisted home drunk.	264
Disturbances quelled without arrest.	232
Lost children returned to parents.	63
Stray teams put up.	49
Store doors found open.	533
Total number of arrests, 1892.	6153
Total number of arrests, 1893.	5635
Decrease of arrests.	518
Total number arrested for drunkenness, 1892.	4609
Total number arrested for drunkenness, 1893.	4103
Decrease of arrests for drunkenness.	506

ROSTER OF THE FORCE.

Chief of Police.

CHARLES HOWARD.

Deputies.

JAMES A. McQUADE.

GEORGE R. DAVIS.

Sergeants.

JAMES DUNLAVY.

WILLIAM R. KEW.

JAMES E. WEBSTER.

Inspectors.

FRANK GOODWIN.

DAVID J. DONALDSON.

MICHAEL E McDONALD.

CHARLES LAFLAMME.

REDMOND WELCH.

Warrant and Court Officers.

PETER CAWLEY.

JACOB G. FAVOR.

ISAAC L. LIBBY.

Keepers.

JOHN R. MACKENZIE.

JAMES McLAUGHLIN.

Day Patrol.

BREAULT, ELOI N.

GRINNELL, ENOCH N.

BROSNAN, JAMES.

LANE, DANIEL W.

BUCHANAN, JOHN.

LIBBY ALBERT E.

CLEMENT, HORACE W.

PAGE, ALONZO J.

CROWLEY, JOHN B.

PROVENCER, NAPOLEON

FARRINGTON, HENRY.

RYDE, CHESTER E.

GRADY, WILLIAM H.

SANBORN, THOMAS J.

GREGG, CHARLES.

WALSH, JOHN A.

Night Patrol.

ALLEN, THOMAS E.	HOWARD, CORNELIUS.
BLOOD, JOSIAH S.	HUBIN, JOHN D.
BOYLE, JAMES.	HURLEY, JAMES F.
BRADY, PATRICK H.	INGALLS, LINDSEY E.
BREEN, DENNIS J.	JONES, WILLIAM B.
BUMPS, WILLIAM G.	LEIGHTON, JOHN I.
CONNERS, MARTIN.	LENNON, MICHAEL J.
CORCORAN, PETER T.	MARKHAM, JAMES.
CREAHIN, JOHN.	MARSHALL, GEORGE W.
CROWLEY, JOHN J.	McINTER, CORMACK.
CURREN, PETER.	McKAY, JOHN H.
DENNETT, JOHN S.	McNABB, JAMES.
DOW, JAMES E.	MOFFATT, WILLIAM B.
DOWNNEY, HUGH.	MOORE, FRANCIS E.
DUNCAN, ALEXANDER.	MULRY, JOHN J.
DUMFEY, JOHN M.	O'BREEN, WILLIAM H.
FITZPATRICK, PATRICK.	O'CONNELL, JOHN.
FOX, EDWARD.	O'CONNELL, MICHAEL.
FOX, FRANK.	O'DONNELL, PETER F.
FOX, JOHN W.	PALMER, GEORGE B.
GALLIVAN, JOHN T.	QUINN, HENRY F.
GARDNER, WILLIS L.	RILEY, JAMES.
GOODHUE, DAVID H.	STOWELL, ROBERT W.
HICKSON, JOHN.	TILTON, HERMON N.
HOLLAND, JAMES E.	WHITNEY, FRANK H.
HOLMAN, ALFRED M.	WHITTAKER, JOHN T.

Reserve Force.

COGGER, DANIEL W.	MAGUIRE, HUGH.
COLEMAN, THOMAS F.	MAHER, MARTIN A.
HOGAN, DAVID H.	MURPHY, ANTHONY.
KANE, BARTHOLOMEW.	RYAN, BARTHOLOMEW.
SWAN, EDWARD T.	

Electrician.

BURNS, MICHAEL J.

Night Operator.

HOWARD, JAMES H.

Drivers of Patrol Wagon.

DAVIS, FREDERICK L.

TILTON, JOHN W.

Hostler.

KILBURN, JAMES W.

Police Matron.

WALLACE, MARGARET.

Changes in the department from December 1, 1892, to November 30, 1893.

Appointments.

Dec. 28, COGGER, DANIEL W.	MAGUIRE, HUGH.
COLEMAN, THOMAS F.	MAHER, MARTIN.
HOGAN, DAVID H.	MURPHY, ANTHONY.
KANE, BARTHOLOMEW.	RYAN, BARTHOLOMEW.
SWAN, EDWARD T.	

Resignations.

Jan. 10, COLLINS, CORNELIUS E.

Promotions.

Dec. 27, BREEN, DENNIS J.	HURLEY, JAMES F.
CURRAN, PETER.	MARKHAM, JAMES.
DUNCAN, ALEXANDER.	MULRY, JOHN J.
FOX, JOHN W.	O'CONNELL, MICHAEL.

Deaths.

HAYES, DANIEL M.

Financial Statement.

Balance Dec. 1, 1892.....	\$6,646 60
Receipts from Dec. 1, 1892, to Dec. 1, 1893.....	30,946 51
Appropriation, 1893.....	82,000 00
Total Cr	\$119,593 11
Expenditures from Dec. 1, 1892, to Dec. 1, 1893...	104,479 73
Balance undrawn Dec. 1, 1893.....	\$15,113 38

Discipline.

The discipline of the department has been good. The members, as a rule, have manifested a commendable disposition to conform to the requests of their superiors, and to cheerfully and faithfully perform their duties. It is but justice to the officers to say, that, with a few exceptions, the force has been free from petty strife and jealousies; and while it is a recognized fact that there is room for improvement, I feel assured that the officers of this department will strive to make advancement in everything that will tend to make the police force of this city efficient and worthy of the respect of the public it serves. My policy with the officers of the department has been to have done what could and should be, regardless of statistics. It has been a noticeable fact that crooks, tramps, and criminals of that class have found this city very uncomfortable as a tarrying place, as the faithful work of this department in detecting suspicious persons on their arrival, and keeping them under close surveillance, has had a most excellent effect in deterring their friends from paying us a visit. How few of our citizens, unless they have taken pains to inform themselves as to the duties of a policeman, have the remotest idea of the unpleasantness connected with those duties, or the dangers to which they are being constantly exposed. For 365 days (except 10 days' vacation), he is expected to patrol our streets, night and day; to be found at his post of duty in the severest storms as well as in sunshine; he is expected to guard your lives and property while you sleep; he must be present at all times and on all occasions,—at fires, political meetings, large gatherings and entertainments,—to preserve the peace; he must be an escort for processions; attend to the wants of injured persons and lost children found on our streets; he must report all broken and unlighted street lamps; look after the violation of the city ordinances, and attend to many other duties, the extent of which the public can know little about. In fact, from no other department of the city government is there so much expected, or one that so much needs the encouragement of all

law-abiding citizens. Owing to the efficiency of our fire department, but very little has been required of the police at fires, but the best of feeling prevails between these two departments of the public service, and I trust it will always remain so.

Detective Department.

The work of this department was conducted by Inspectors Hayes and Laflamme until the death of Inspector Hayes last July. To the police department and the citizens at large, the removal, by death, of Mr. Hayes is a serious loss. He was one of the best officers in the department. Patrolman Allen was detailed, Oct. 1, to assist Inspector Laflamme, and they still continue to conduct their work in a careful, intelligent manner. They have been remarkably successful in all work placed in their hands, and their success in recovering stolen property and detecting and arresting criminals proves them to be well fitted for the positions they hold.

Liquor Prosecutions.

The work of enforcing the laws regulating the sale of intoxicating liquor has been carried on with a considerable degree of success. Inspectors Donaldson, Goodwin and Welch are assigned to this duty; and while we have, perhaps, accomplished as much as could be expected, considering the difficulties attending the work, still it is not entirely satisfactory, viewed from the standpoint of an exact and honorable compliance with the law;—from reports that have come to me (not of a kind that could be used as evidence), I am convinced that certain dealers have not conformed to the conditions of their license relative to selling on Sundays and other prohibited days, or with the provisions designating the kind of business permitted. I am of the opinion that a closer observance of the law would be shown by legal dealers if this department had a voice in determining who should receive licenses, and were able to say that a man who violated his license would fail to secure a renewal of it, even if we were not in a position to prove the fact to the satisfaction of a jury. While it would, perhaps, be

Obituary.

Daniel M. Hayes.

Died July 31, 1893.

Born in Bradford, Vt., February 8th, 1847; entered the service January 30th, 1874; promoted Inspector January 4th, 1879, which office he held till he died. He was genial, generous and kind-hearted; an intelligent and efficient officer; popular with the general public, and loved and respected by the members of the force. Faithful in the performance of every duty; died beloved and respected by his brother officers and a host of friends.

unfair to revoke a license on hearsay evidence; even when satisfied that it is true, still no just cause for complaint could come from refusing to renew it after it had expired. I do not wish to be understood as charging that violations have been the rule, but it should be possible to prevent all willful disregard of the law; and although failure to prevent it is chargeable to the difficulty in securing evidence, still these violations are considered as reflecting on the efficiency of the police by many persons whose good opinions we desire to retain. The suppression of illegal liquor selling has been conducted with a view to accomplishing permanent results, and when possible we have put these dealers in a position where increased punishment could be given them if they did not abandon the business. I am willing to allow the people who live in the vicinity of certain notorious places that have flourished for years to say whether or not we have met with any success, confident that they will admit that better results have been secured the past year than ever before.

In spite of statements to the contrary, I do not hesitate to say that in the matter of illegal liquor selling, Lowell will compare favorably with any other city in the commonwealth, since to-day there are no unlicensed saloons where the paraphernalia usual to liquor selling can be found—a state of affairs, that to my knowledge, has not previously existed. I submit that the driving of illegal selling into small groceries and tenement houses in the worst parts of the city is something to be approved by law-abiding citizens. The difficulties attending liquor seizures in such localities as Adams, Market, Winter and similar streets is not understood by the general public, although the persons engaged in business thoroughly understand it. It is not sufficient to seize liquors, but evidence must be produced to show that it is kept with intent to sell; and when the whole neighborhood is in sympathy with the dealer, it is not an easy matter to get such evidence. In order to accomplish it, we have employed special officers to procure sales at these places, as the regular police are too well known to do it; and yet, these special officers have been abused and called spotters, by the very people who have criticised the department most severely for failing to wipe

out illegal selling, until it has become impossible to induce other special police officers to undertake the work. In view of these facts, comment on such criticism is unnecessary.

Since December 1, 1892, they have served 163 search warrants, and made 76 seizures, netting 420 gallons of liquor. There have been 62 prosecutions made in the police court. The fines in these cases amounted to \$4,310.00. The liquors seized have been forfeited and delivered to the chief of the Massachusetts District Police, and his receipt taken therefor. Eighty-two patrolmen have testified in the prosecution of liquor cases.

Police Telegraph.

This necessary auxiliary to the efficiency of our police work has given the best of satisfaction during the past year. A city of Lowell's size and importance could ill afford to be without such a factor in its police department, and when I consider the difficulties attending police duty in the past, when we did not have a police telegraph, and compare it with these days, I am satisfied that the money expended to purchase and maintain it has been a good investment.

The addition of a battery room in the police building will be quite an improvement. Formerly, the battery was in the central fire station. By having it in the police station it will be nearer the apparatus, besides making it more convenient.

Last spring, the boxes were overhauled, and all repairs needed were attended to by the Gamewell people. I have only to add that the work done by them has always been satisfactory, not only in workmanship but in their willingness to give us the best they have in the way of improvements.

A few more boxes could be placed to advantage around the city. The number in use at present is fifty-three — one box having been added this year.

Following is a brief summary of the work done on the police telegraph during the past year:

No of Duty reports.....	392,738
“ Telephone calls.....	33,260

No. of Ambulance calls.....	258
“ Wagon calls.....	4,160
“ Prisoners brought in by wagon.....	5,024

Recommendations.

That some provisions be made for the maintenance of a bed at some one of the hospitals. During the past year, we have had occasion to send a number of persons who were injured, by accident, to the St. John's hospital. The authorities there have never refused to accept any patient so sent—not that the city has any rights which it has paid for, but the patients have been received and cared for through charity. This should not be. It seems to me that in a city containing nearly eighty-five thousand inhabitants, where large manufactories are located, accidents are liable to occur at any time and the injured should have hospital treatment. That we have been slow in this matter is a fact that cannot be disputed. That we should not be obliged to depend on the suffrage of those placed in charge of the hospital is conceded by every fair-minded citizen. While the hospital authorities have been kind to us in every instance, I feel that we should no longer be supplicants for charity, but should have rights bought and paid for.

Police Surgeon.

In nearly every city where there is a Police Department of any magnitude there is a Police Surgeon. His duty is to examine applicants for police service, visit officers reported sick or disabled, and attend to sick, injured or insane police prisoners. In the case of officers reported sick or disabled, he makes a report to the head of the Police Department, giving the cause and the nature of the sickness. As soon as an officer is reported sick he visits him, and the department is thus able to know whether the sickness is real or assumed. Such an officer, in my opinion, is greatly needed in our city, and I most respectfully ask you to give this matter your consideration at an early moment.

I would respectfully recommend the enactment of and amendments to present ordinances covering the following :

FRUIT, NOTION, ETC., STANDS.— Prohibiting all sales of goods or merchandise on the main streets or sidewalks.

NEWS BOYS AND BOOTBLACKS.— License news boys and bootblacks for a nominal sum, making said licenses more a matter of register and control over them than for any revenue.

PARADES.— Prohibit all parades of whatever nature (except funerals) without first obtaining a written permit therefor from the mayor ; and said permit should designate the time and the streets over which said parade should pass.

PUBLIC MEETINGS.— Prohibit on streets all public meetings,—political—religious—Salvation Army, etc.,—without first obtaining a written permit from the mayor, stating time and place.

JUNK MEN.— License junk men who run wagons or carts, and require from them a report, on suitable blanks furnished by the police department, of all purchases of metal, under heavy penalty.

WORKHOUSE PRISONERS.— Require all prisoners committed to the workhouse by the courts, to be returned, upon expiration of their time, to the Police Court and be discharged therefrom.

BICYCLES.— There should be an ordinance governing bicycles and tricycles in this city.

I also recommend that the ordinance requiring snow and ice to be removed from sidewalks should be amended by reducing the time limit. In Boston abbutters are required to remove snow within an hour after it ceases to fall in the daytime, and before 9 o'clock in the morning, if it falls at night. It would save this city from suits for damages, and citizens from accidents, if the police could require abutters to attend to their walks without waiting for so many hours to expire. Formerly the city was not held responsible for damages until 24 hours had elapsed, but now they are liable for the safe condition of walks at any time, which seems to be a sufficient reason for

requiring prompt action in rendering walks safe and convenient for travel. If the city council have the power, the ordinance should also be changed to allow the city to clean the walks of non-residents who cannot otherwise be reached, the cost to be a lien on the estate, to be collected in the same way that taxes are collected.

Pensioning Officers.

There are two or three cases which some provision should be made for other than having them counted on our quota of able bodied officers, they having become nearly incapacitated for duty. To turn any of these men out without any provision for their immediate wants would seem cruel, and would be dealing with them in an unjust manner, as they have spent the best portion of their lives in this business, and are in consequence unfitted for anything else. The recommendations I have before made,—that of pensioning such men,—I now renew. This system is adopted in many cities, where tenure of office is recognized, and in justice to this city as well as the officers themselves, makes it a matter worthy of your immediate consideration.

Mounted Patrol.

I find that, on making a comparison with other cities of about our size, we are reasonably well provided for. The city has been remarkably free from crime of a serious nature during the year. There is one class of offenders that could be dealt with far better by a change in our system than by adding a large number of men. The mere presence of an officer is sufficient to prevent depredations of various kinds, and my experience leads me to believe that one of the greatest nuisances the average citizen has to put up with is the boy of the day. Robbing orchards, breaking glass, destroying trees and shrubbery, while perhaps not done with malicious intent, are sufficient to make life a burden to the people whose homes are not on the principal streets. Juvenile offenders are protected by law to such an extent that it is now a difficult matter to reach them. The only remedy is in prevention, and with that object in view,

I would recommend the appointment of Mounted Patrol officers in the summer months in the suburban districts of wards 2, 3, 4, 5 and 6. It is not a new experiment. All of the large cities now have a mounted patrol for the suburban districts, and cities even smaller than Lowell have tried it with success.

Conclusion.

In concluding this report, I wish also to acknowledge favors received. In the first place to His Honor Mayor Pickman, I wish to express my thanks for kind assistance and forbearance; and to Alderman Evans, Johnson and Westall,—committee on police,—for their consideration and every effort made to benefit us. To the citizens at large, for the endorsement given by them in the generous manner in which they have aided us in our efforts to establish a fund for our Relief Association. I also extend my thanks to Honorable Samuel P. Hadley and his associates; and to James F. Savage and Edward W. Trull, respectively, of the Police Court, for the many courtesies shown me and each member of the Police Department, and for valuable counsel in dealing with the department. I desire to acknowledge my obligations to Deputies Davis and McQuade; to the Sergeants and Inspectors, as well as the rank and file of this department, who have so ably sustained me. While endeavoring to maintain strict discipline, I have also striven to act impartially, and do that which I considered for the best good of our department; and also to obey the instructions of our police committee, and His Honor, the Mayor.

To the heads of the several departments, we are under many obligations. I also desire to extend my thanks to the officers of other cities for all assistance rendered.

Respectfully submitted,

CHARLES HOWARD,

Chief of Police.



ANNUAL REPORT

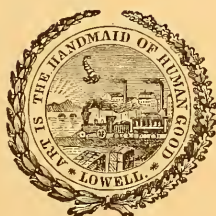
OF THE

TRUSTEES

OF THE

City Library of Lowell,

FOR THE YEAR 1893.



LOWELL, MASS.

LOWELL COURIER PUBLISHING COMPANY.

1894.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, March 6, 1894.

Received and ordered on file. Sent down for concurrence.

MICHAEL J. DOWD, *City Clerk*.

IN COMMON COUNCIL, March 13, 1894.

Received and ordered on file, in concurrence.

FRANK J. SIMONDS, *Clerk*.

Administration of the City Library, 1893.

BOARD OF TRUSTEES.

JOHN J. PICKMAN, Mayor of the City.

GEORGE F. RICHARDSON,

STEPHEN J. JOHNSON,

FRANK P. PUTNAM,

LARKIN T. TRULL,

PHILIP J. FARLEY.

LIBRARIAN.

FREDERICK A. CHASE.

ASSISTANT LIBRARIAN.

HARRIET F. HILL.

ASSISTANTS.

WALTER H. GILMAN,

STEPHEN T. WYMAN,

CLARA BEARD,

BERTHA G. KYLE,

MARION F. BROWN,

ALICE M. MYERS,

HARRY C. BOWEN,

GEORGE H. CHAPMAN.

SUPERINTENDENT OF READING-ROOM.

EDWARD F. SLATTERY.



REPORT OF THE TRUSTEES.

LOWELL, MASS., Dec. 30, 1893.

To the City Council of the City of Lowell:

The Trustees of the City Library of Lowell respectfully submit the following report for the year 1893:

Following the Resolves of 1842, '43, and '44 of the Legislature of Massachusetts relating to school libraries, our City Council, on the 20th of May, 1844, passed an ordinance creating the "City School Library" in accordance with these Resolves.

The coming year is, then, the fiftieth of the Library's existence, and it is a matter of great congratulation to us that this anniversary year finds our Library well established in a building which is universally admired for its handsome exterior, and its convenient, spacious, and elegant interior, admirably adapted for the purpose to which it is dedicated. The building has been well and worthily built, and reflects great credit on the Commission who had its erection in charge, and on the architect who designed it. It honors, too, the liberality and enlightened spirit of our city.

The character and intelligence of a community is best shown by its monuments, and by the use made of its accumulated wealth. So this noble structure, dedicated to the beneficent purposes of public instruction and culture, speaks not only of the material but of the intellectual progress of our city.

The liberality and public spirit which prompted our city to build for public use one of the finest and best-appointed library buildings in the country, warrants us in assuming that the Library will be liberally maintained, and provisions made for its greater value and usefulness in the future.

In this connection we would once more call your attention to the nature of the balance now to the credit of the Library in the hands of the City Treasurer. It is not the unexpended balance from last year's appropriation, but is the balance of the insurance money paid the Library on account of the loss by fire in April, 1891. We have regarded this money as a special fund to be spent gradually in repairing the losses of 1891, and by the purchase of new books to improve the condition of the Library. On account of the interruption in the buying of books occasioned by moving our Library and establishing it in its new quarters, this money has not been spent. We would respectfully ask, therefore, that, as in former years, in estimating the needs of the Library for the coming year, the fact that we have this unexpended balance be not considered.

We are able to approximate the probable expense of running the Library for the coming year as follows:

Lighting	.	.	.	.	.	.	.	\$1,800
Heating	.	.	.	.	.	.	.	1,000?
Salaries	.	.	.	.	.	.	.	7,400
Periodicals,	.	.	.	.	.	.	.	800
Binding,	.	.	.	.	.	.	.	1,100
Printing	.	.	.	.	.	.	.	800
Other expenses	.	.	.	.	.	.	.	2,100
								\$15,000

An appropriation of \$15,000 will, therefore, be needed to pay the actual running expenses of the Library and before a single book can be purchased.

"Statistics of the Public Libraries of the United States" (1893), recently issued by the United States Bureau of Education, ranks the larger libraries of Massachusetts as to their number of bound volumes, as follows:

Boston Public Library	.	.	.	.	.	556,283 vols.
Harvard University Library	.	.	.	.	.	292,000 "
Boston Athenæum	.	.	.	.	.	173,831 "
American Antiquarian Society (Worcester)	.	.	.	.	.	95,000 "
Worcester Free Public Library	.	.	.	.	.	85,674 "
Springfield City Library Association	.	.	.	.	.	79,218 "
New Bedford Public Library	.	.	.	.	.	60,000 "
Amherst College Library	.	.	.	.	.	56,000 "
Andover Theological Seminary	.	.	.	.	.	48,763 "
Lynn Free Public Library	.	.	.	.	.	44,821 "
Lowell City Library	.	.	.	.	.	44,000 "

Our Library stands the eleventh on this list. Since the above statistics were collected our Library

has reached 49,890 volumes, January 1, 1894, and probably now stands the ninth or tenth on the list. There is no reason why it should not stand the fourth on the list, or inferior in importance only to the great libraries of Boston and Cambridge.

What position our Library shall occupy depends upon the amount placed at our disposal for the purchase of books. We have shown the amount necessary to defray the running expenses of the Library; what further sum shall be given us for the purchase of books is for you to decide.

In putting our new quarters to use we find that the needs of our Library were well considered and provided for except that the present large use of our lower reading room was not foreseen. The space allotted for this purpose in the basement of our building is barely sufficient for the many who now frequent the rooms. Additional space is already needed, and will soon be an urgent necessity. An opportunity is offered to extend these rooms by adding the unfinished westerly room at the corner of Moody and Colburn Streets, and we would respectfully request that you consider the advisability of finishing this room. Besides the large increase in the use of our reading rooms, the use of the Library's books in the reference department, and in the circulation of books for home use, has been increasingly large, as statistics elsewhere will show. It is the modern spirit of libraries, however, to be not merely

custodians of books, but to reach out and try in many ways to extend their influence and usefulness. Although the patronage of our Library is large and shows a gratifying increase, yet we are well aware that the number reached and benefited by it is not as large as it might be. We have no doubt that well-printed finding lists of the different classes of books in the Library would greatly increase the present use of our books.

Now that our Library is in a position to accommodate a larger patronage there are many directions in which it may be more useful. The Library as an auxiliary of the public schools has been doing efficient work. It is hoped that a closer connection with the schools and school work may be established, and we would bespeak the co-operation of the School Committee and Superintendent to this end. Many of the teachers have availed themselves of the special privileges accorded them for the benefit of their pupils, and we hope that many more will do so, for we are sure that a much better class of books will be read by the pupil under the direction of a teacher than would be read by him if allowed to choose for himself at the Library.

There should be a lecture department in connection with the Library, and we would be glad to see some hall available for free lectures on scientific, literary, art, and other subjects, for the benefit of the teachers and scholars of our public schools, and for

others specially interested, and we would be glad to see provision made for such lectures. They would do much, we think, to excite interest in important subjects, and the benefit derived from them would be inestimable. The library has the material for many reading lists on special subjects, and it is our purpose, early in the coming year, to publish a monthly bulletin which shall contain a list of the new books added to the Library, also reference lists on special subjects. Such lists distributed among the numerous literary and debating societies in the city and at the Library would greatly increase the interest in the better class of reading, and do much to give direction and aim to readers. A handy list of the books of special interest to those interested in textile manufactures posted at the mills and distributed among the operatives, would do much to increase the intelligence of our artisans and so aid the industrial progress of our city.

With the intention of interesting our people in what is best in architecture, painting, and sculpture, and of making our Library a centre of refined influences, we have hung the walls of the rooms open to the public with pictures of famous buildings and places, and a number of busts of the great men of the world have been placed in our Reference Room. These have been seen by many hundreds of people and have been much appreciated, both for their decorative effect in our rooms and for the instruction they have given.

Our Library is now well started on a new career of usefulness, and we feel, by the disposition which our City Council and the people have shown towards it, that its future is well assured, and that our efforts and desire to make it a great good to the people will be well sustained. Many friends of the Library have presented it with volumes, and have greatly aided in replacing the extensive losses of the Library in the department of magazines, for which the Trustees make grateful acknowledgment. Special mention should be made of the gift to the Library of about six hundred books by H. M. Boynton of Newtonville. The collection contained many useful books, besides pamphlets, etc., of special local interest.

As our Library now has the facilities for the safe keeping of valuable books and other treasures, we hope that many important and valuable additions will be made to the Library's collection during the coming year, and that gifts to the Library, which have doubtless heretofore been withheld on account of the insecurity of the building in which our books were stored, will materialize now that our building is fire-proof. The following financial statement will show the amount and sources of the receipts for the Library, and also the direction in which they were expended:

RECEIPTS.

Balance Jan. 1, 1893, of insurance money account	
of fire, April, 1891	\$ 7,232 86
Appropriation by City Council	11,000 00
<i>Amount carried forward</i>	<i>\$18,232 86</i>

<i>Amount brought forward</i>	\$18,232 86
Dog licenses	3,359 29
Fines	330 75
Sale of catalogues	38 30
Lost and damaged books	9 64
Non-resident subscribers	10 00
Other sources	22 68
	\$22,003 52

EXPENDITURES.

Salaries	\$6,879 10
Rent and heating	1,231 64
Lighting	1,429 24
Books	4,270 53
Periodicals	817 40
Binding	638 69
Sundries	2,955 24
Balance of insurance money, account of fire, April,	
1891	3,781 68
	\$22,003 52

Respectfully submitted,

JOHN J. PICKMAN,
 GEORGE F. RICHARDSON,
 FRANK P. PUTNAM,
 LARKIN T. TRULL,
 STEPHEN J. JOHNSON,
 PHILIP J. FARLEY,

Trustees.

Condition of the Library.

Volumes purchased	2,479
Volumes added by gift	121
Volumes added by binding periodicals	362
Worn-out books replaced	254
Cost of same	\$208 19
Duplicates purchased	106
Total number of volumes added	2,240
Total number of volumes in the Library	49,890
Volumes lost and not paid for	22
Estimated value of the same	\$17 11
Periodicals and papers subscribed for	220
Periodicals and papers given	8
Total number of papers and periodicals	228
Number of volumes used, home and reference	126,215
Number of volumes consulted in Reference Room	11,524
Number of post cards sent to delinquents since June 5, 1893	385
Applicants received since June 5, 1893	5,658
Applicants who did not call for cards	80
Names registered since June 5, 1893	5,578
Number of names registered Dec. 21, 1893	5,578
Total registered to date	5,578

Classified Contents of the Library.

General works . . .	3,865	Fine Arts . . .	1,823
Periodicals . . .	4,602	General literature .	6,045
Philosophy . . .	921	Fiction . . .	9,051
Theology . . .	3,183	History, including Travel	
Sociology . . .	2,681	and Description .	8,566
Philology . . .	370	Biography . . .	4,438
Natural Science . .	2,305		
Useful Arts . . .	2,040	Total number volumes,	49,890

Percentage of fiction to all other classes, 18.1.

Classified List of Accessions. 1893.

General works . . .	58	Fine Arts . . .	144
Periodicals . . .	362	General literature .	294
Philosophy . . .	52	Fiction . . .	360
Sociology . . .	124	History, including Travel	
Natural Science . .	107	and Description .	291
Philology . . .	21	Biography . . .	258
Theology . . .	98		
Useful Arts . . .	71	Total accessions . .	2,240

List of Donors to the Library, 1893.

NAMES.	Pamphlets.	Volumes.
Abbott, Miss Katherine M.	1	3
Ayer, J. C. Co.		1
Batchelder, George W.		1
Boston Medical Library Association		582
Boymton, H. M.		1
Bridgewater Normal School		
Brookline Public Library	1	
Cambridge Church Library Association	1	
Chicago, City of		1
Cincinnati Chamber of Commerce		1
Citizen Newspaper Co.		1
Clapp, Mrs. Mary S.		65
Corey, Mrs. D. P.		1
Cornell University	1	
Cutting, Francis		1
Dumas, Levi		1
Floyd, Warren L.		1
Francis, Col. James		4
Gardner, George A.		1
Greene, Samuel A., M. D.	1	1
Greenhalge, Hon. F. T.		74
Hill, N. P.		1
Knapp, Hon. Chauncey L.		1
Lawrence, Dr. Samuel		2
Lodge, Hon. H. C.		15
Lowell, City of		2
Lynds, William H.		1
Massachusetts School for Feeble-Minded	1	
Mexican Central R. R. Co.		1
Newark Free Public Library	1	
<i>Carried forward</i>	7	763

NAMES.	Pamphlets.	Volumes.
<i>Brought forward</i>	7	763
New Jersey, State of		1
Olin, Hon. W. M.	1	14
Parker, Mrs. J. M. G.		19
People's Club		16
Pinkham, George E., M. D.		1
Providence Record Commissioners		1
Raum, George E.		1
Richardson, Mrs. D. S.		2
Robbins, Miss N. P. H.		14
Royal Society of Canada		1
Salem Public Library	1	
Shurtleff, Thomas B.		1
Traders' & Mechanics' Insurance Co.		3
United States Department of Agriculture	2	1
Department of Interior	26	9
Department of State	1	8
Department of Treasury		3
Fish Commission		2
Interstate Commerce Commission, ...		1
Navy Department	1	
Smithsonian	8	6
War Department		6
Webster, Miss Mary A.		52
Wheeler, R. L.		15
Wilder, Henry H.		2
Worcester, City of		1
Total	47	943

Library open 276 days.

Total circulation	126,215
Average daily circulation	457
Largest monthly circulation (November)	15,327
Smallest monthly circulation (July)	8,076
Largest daily circulation (December 2)	1,280
Smallest daily circulation (June 21)	141
Percentage of fiction read	70
Percentage of other classes	30

ANNUAL REPORT

OF THE

CITY SOLICITOR

OF THE

CITY OF LOWELL

FOR THE YEAR 1893.



LOWELL, MASS.:

VOX POPULI PRESS: S. W. HUSE & CO.

1894.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, March 6, 1894.

Received and ordered on file; sent down for concurrence.

MICHAEL J. DOWD, *City Clerk*.

IN COMMON COUNCIL, March 13, 1894.

Received and ordered on file, in concurrence.

FRANK J. SIMONDS, *Clerk*.

REPORT.

OFFICE OF CITY SOLICITOR,
LOWELL, MASS., March 1, 1894. }

Gentlemen of the City Council:

The ordinances of the city require this office should make a report annually of the legal business transacted by it in the courts of this Commonwealth, together with a brief statement of the nature of the cases and their disposition. It gives me much pleasure to comply with the same, and I have the honor to submit the following;

VICTOR RAULT *vs.* CITY OF LOWELL.

This was an action of tort brought by the plaintiff to recover of the defendant the sum of six thousand dollars, for personal injuries sustained while in the employ of the city. Rault was a laborer at work on the Lawrence street sewer on Dec. 15, 1892, where rock was being blasted in excavating for the sewer. While so engaged and using a pick, it was supposed he struck a piece of dualin, when an explosion took place, and defendant lost his right eye and severely injured the other, and his face, neck, and hands. This case was tried in the Superior Court at Lowell before a jury, and a verdict was returned for the defendant.

FRED SANBORN *vs.* RANSOM A. GREENE OF THE LOWELL SCHOOL BOARD.

Two suits: The first was an action of contract, whereby the plaintiff sought to recover damages of the defendant for breach of

contract. The plaintiff claimed that the defendant exceeded his authority as a member of the Lowell School Board, in engaging him as an evening school teacher in the Lowell High School during the whole term thereof, whether his services were required or not by the City. Plaintiff's services were accepted during part of the term, but subsequently he was allowed to go, by order of the defendant, when he brought this suit. The case was tried before a jury at the March term of the Superior Court, and a verdict returned for the defendant.

The second was a suit for slander growing out of the above case. The plaintiff claimed the defendant charged him with being a blackmailer, which is a criminal offence under our laws, and sought to recover damages therefor. This case was tried before a jury at the March term of the Superior Court, and a verdict returned for the defendant.

WILLIAM MANNING *vs.* CITY OF LOWELL.

This was a petition filed in the Superior Court to recover damages for the taking by the City of about 133,606 square feet of land for the enlargement of the Edson Cemetery, a public burial ground in said City. The trustees of public burial grounds and the petitioner were unable to agree as to value of the land, the City being willing to pay about three cents per foot, while the petitioner claimed at the trial, and sought to prove by his witnesses, that it was worth as much as ten cents. It was claimed also there were valuable deposits of sand on the land which added to its value for building purposes. This case was tried before a jury at the March term of the Superior Court, and many witnesses were heard on both sides, and after a trial lasting nearly four days the jury returned as the petitioner's damages the sum of \$4380, or about 3 $\frac{1}{4}$ cents per foot. The petitioner took exceptions to the verdict, was dissatisfied therewith, and the case goes to the Supreme Judicial Court for final settlement.

MARY CONNORS *vs.* CITY OF LOWELL.

Action of tort to recover damages for personal injuries sustained by the plaintiff, to wit: A broken arm by reason of the rough, hubbly, and uneven condition of ice and snow on the sidewalk on Central Street in front of the premises of Wm. B. Spalding. A

trial was had in the Superior Court before a jury, and a verdict was given for the plaintiff in the sum of \$375. There was no defence, except one involving a question of law, and the case went to the Supreme Judicial Court on the defendant's exceptions, which were overuled.

SADIE T. BROWNLEE vs. CITY OF LOWELL.

Action of tort to recover damages for injuries sustained by the plaintiff, to wit : A broken arm on Dec. 20, 1890, by reason of falling on an icy sidewalk on Pine Street, which the plaintiff alleged was left in a dangerous and unsafe condition. This case was tried in the Superior Court before a jury in September, 1892, and the jury reported a disagreement. An offer was subsequently made to settle for \$250, in full of damages and costs, and I settled for that sum.

GRADE CROSSINGS.

Petition of the Mayor and Board of Aldermen to the Superior Court asking for the appointment of a Commission to consider the advisability of a change of grade where the railroads now operated and controlled by the Boston and Maine R. R. cross the following streets at grade, viz: George, Taylor, Church, Rogers, Lawrence, and Pawtucket.

A hearing was had before said Court, and by agreement the following Commission was appointed: George W. Wiggin of Franklin, John W. Ellis of Woonsocket, R. I., and Samuel L. Minot of Boston. Plans have been prepared by both parties, and it is expected the Commission will grant a hearing on the petition at an early day.

SVEN OHLLSON vs. CITY OF LOWELL.

This was a petition to recover damages for the taking by the City of the petitioner's house and about 40,000 square feet of land, for the enlargement of the Edson cemetery, a public burial ground in said Lowell. After the trial of the Manning case I settled this action, and paid petitioner \$1800 in full of all damages and costs, or four cents a foot for all land and buildings taken.

CHARLES D. STARBIRD vs. CITY OF LOWELL.

This was a petition to assess damages for about 88,428 square feet of land taken for the enlargement of the Edson cemetery. This case

was also settled, taking the findings of the jury in the Manning case into consideration, and the City has reason to congratulate itself in the settlement of these land cases, for in no instance did the parties receive as much as the City was willing to pay when the land was first taken. The amount paid the petitioner in full of damages and costs was \$3290, or $3\frac{1}{4}$ cents per foot.

JOHN CROSS vs. CITY OF LOWELL.

This was an action of tort brought by the plaintiff to recover of the defendant damages for injuries received on March 23, 1893, by falling on an icy sidewalk on Middlesex Street, whereby the plaintiff's leg was broken. The sidewalk was in a bad condition, no tenant occupying the premises abutting the same, and the ice and snow were allowed to accumulate thereon. The City being liable, I settled the case for \$300 in full of all damages and costs.

PATRICK MUNGOVAN vs. CITY OF LOWELL.

This was an action of tort brought by the plaintiff in the United States Circuit Court at Boston to recover damages for injuries sustained by the falling of a derrick at the City's reservoir on Christian Hill, on Oct. 21, 1885. At the term of the Court in January last the plaintiff was non-suited, thereby disposing of the case in favor of the City.

CITY OF LOWELL vs. LUCY E. GLIDDEN.

This was an action brought against the defendant to recover the amount of a judgment, recovered against the City by Charles F. Hamilton, who was injured on Elliott Street on Sept. 12, 1891, by falling into a window well attached to defendant's building, and extending into the highway. The case was tried in the Superior Court and judgment given for the defendant, which was subsequently confirmed by the Supreme Judicial Court.

DORA ARMSTRONG vs. CITY OF LOWELL.

This was an action of tort brought to recover the sum of \$4000 for injuries sustained by the plaintiff in falling on an icy sidewalk on the easterly side of Gorham Street. The case was tried at the

September term of the Court, and while the injuries complained of were severe, the spine having been injured, the City defended the case on the question of its liability, and a verdict was returned in its favor.

THERESA TIGHE vs. CITY OF LOWELL.

This was an action of tort brought to recover the sum of \$4000 for injuries sustained by falling into a hole in the sidewalk where ice had accumulated on the westerly side of Gorham Street, near its junction with South Street. The plaintiff broke both bones at the ankle joint and ruptured the ligaments about the same, and was incapacitated to perform her duties as a housekeeper for many months. My examination led me to believe that the City was liable, I settled for the sum of \$475 in full of damages and costs.

Boott Cotton Mills vs. City of Lowell.

Merrimack Man'g Co., vs. City of Lowell.

Mass. Cotton Mills vs. City of Lowell.

Tremont & Suffolk Mills vs. City of Lowell.

All these suits involve the same questions, and were brought to recover interest on the various sums of money abated by the County Commissioners in the several tax cases.

The case of the Boott Cotton Mills was tried before Hopkins, J., in September, 1892, the plaintiff seeking to recover from the City the sum of \$2,871.76 interest money. After hearing and argument the Court ruled the plaintiffs were entitled to interest from the time of abatement by the County Commissioners, and not from the time the money was paid to the Collector of Taxes, and entered judgment for the plaintiffs in the sum of \$1,212.47. By the finding of the Superior Court, thousands of dollars have been saved; still I deemed it best to have the Supreme Judicial Court pass on the questions and settle the law; therefore at my request the case has been reported to that Court. When a final decision is given, it will serve as a precedent in the settlement of the other cases. The above was contained in my report of 1892. Since then, the Supreme Judicial Court has rendered a decision and ordered the above verdict to be set aside, ruling that the corporations were entitled to interest after demand made on the City, after the findings of the County Commissioners. It is expected that all these cases will be disposed of at this March term of the Court.

The suits of the Tremont & Suffolk Mills, for abatement of taxes assessed 1888, 1889, 1890, 1891, 1892 are still unsettled; a trial was had extending over many days on the petition for abatement of 1889 before Richardson, J., in the Superior Court, in accordance with the provisions of Chap. 127, of the laws of the Commonwealth for 1890, which provide that any party aggrieved may appeal to the Superior Court. The Court granted an abatement and ruled that the method of the assessors in assessing the real estate of said Mills was illogical and led to an error in the assessment. The City contended that the assessors' method was a proper and reliable one, and took exceptions to the judge's ruling, and the case is now in the Supreme Court awaiting final determination.

The removal of the Moody Street tracks, which has occupied the attention of the City Government since 1890 is completed. The City agreed to pay \$17,000 therefor, in full; and there was paid to the Merrimack Man'g Co. the sum of \$15,000 in addition to a receipted bill delivered of two thousand dollars, for work done by the Street Department in putting that part of Moody Street where the tracks formerly were, into a safe condition for public travel.

The Committee on Claims of the City Council also heard and disposed of several claims pending against the City.

The following cases are now, February 28, 1894, pending in Court:

Middlesex Company *vs.* City of Lowell, two cases.

Henry A. Hildreth *vs.* City of Lowell.

Ann Donohoe *vs.* City of Lowell.

Bernard Riley *vs.* City of Lowell.

J. M. G. Parker *vs.* City of Lowell.

Pevey Bros. *vs.* City of Lowell.

Solomon Bachman *vs.* City of Lowell.

John H. Holden *vs.* City of Lowell.

Addison Hadley *vs.* City of Lowell.

Etta F. Knowlton *vs.* City of Lowell.

Mary N. Langley *vs.* City of Lowell.

Joseph Small *vs.* City of Lowell.

Edward D. McVey *vs.* City of Lowell

William Manning *vs.* City of Lowell.

Bragg Man'g Co. *vs.* City of Lowell.
John Manning *vs.* City of Lowell.
Francis C. Wilson *vs.* City of Lowell.
Ired B. Hall *vs.* City of Lowell.
James H. Monahan *vs.* City of Lowell.
Ellen Martin *vs.* City of Lowell.
Margaret Driscoll *vs.* City of Lowell.
Lyman W. Field *vs.* City of Lowell.
Annie Ovington *vs.* City of Lowell.
Francis Burns *vs.* City of Lowell.
Warren Aldrich *vs.* City of Lowell.
Henry L. Tibbetts *vs.* City of Lowell.
Sadie Bicknell *vs.* City of Lowell.
Daniel Grey *vs.* City of Lowell.

Edward Bickford et. *vs.* { Redmund Welch.
William R. Kew.
Frank Goodwin.
David J. Donaldson.

While it is not any part of my duty to make any suggestions to the City Council, still I deem it wise to recommend the passage of an ordinance prohibiting the building and erecting of bay-windows on houses abutting on the public highway, when such windows extend over the street. It might not be considered advisable to prohibit such building in all streets, but Merrimack, Central, and other streets in the business portion of the City should be free from these irregular projections. In winter time, by reason of the melting of snow and ice, there is a constant drip therefrom to the sidewalks, whereby ice is formed and the walks rendered unsafe and dangerous.

An ordinance should be passed likewise, regulating the kind of material to be used in those portions of the sidewalk under which excavations are made by abutting owners of property. At present each abuttor constructs such portion as he deems best, with the result that the

public are annoyed and locomotion rendered difficult, by reason of certain points or prongs which are used presumably to protect the glass disks which admit light to the premises underneath. A regular, uniform covering should be prescribed, and all persons be obliged to conform thereto.

During the winter months, when ice and snow accumulate on the streets and sidewalks, great difficulty is experienced by the police in compelling owners or occupants of real estate to remove the snow therefrom. An erroneous notion prevails that such persons cannot be compelled to remove the snow, but this view is wholly wrong, and if persisted in, prosecution in the future will undoubtedly follow.

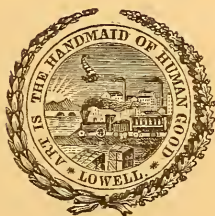
Yours truly,

JOHN J. HOGAN,

City Solicitor.

ANNUAL REPORT
OF THE
SUPERINTENDENT OF CITY SCALES
AND
MEASURER OF WOOD AND BARK
OF THE
CITY OF LOWELL

FOR THE YEAR 1893.



LOWELL, MASS.:
VOX POPULI PRESS: S. W. HUSE & CO.
1894.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, January 23, 1894.

Received and ordered on file.

MICHAEL J. DOWD, *City Clerk.*

REPORT.

To the Honorable Mayor and Board of Aldermen:

In compliance with an ordinance requiring the Superintendent of City Scales to report annually, I have the honor to submit the following report for the year 1893:

I have during the year weighed—

		TONS.	POUNDS.
619	loads of Hay.....	694	1410
126	“ Straw.....	108	915
29	“ Iron.....	46	1845
17	“ Coal.....	31	1625
6	“ Grain.....	13	965
15	“ Cabbage.....	9	1155
8	“ Carrots.....	6	1070
3	“ Rhubarb.....	3	
1	“ Squash.....		875
1	“ Corn.....		615
1	“ Excelsior.....		515
1	“ Dressed Hogs.....		1000
1	Barrel Whiskey.....		390
1	Barrel Water.....		452
1	load of Empty Barrels.....		85
1	Bicycle.....		32
115	Horses.....		—
3	Carriages.....		—

Received for fees for weighing, \$199.11.

I have during the year measured —

		CORDS.	FEET.
2199	loads of Wood.	2784	7
182	“ Manure	159	5 $\frac{1}{4}$

Received for fees for measuring, \$116.40.

R. J. NOONAN,
Superintendent of City Scales and Measurer.

ANNUAL REPORT
OF THE
SEALER OF WEIGHTS AND MEASURES
OF THE
CITY OF LOWELL

FOR THE YEAR 1893.



LOWELL, MASS.:
VOX POPULI PRESS: S. W. HUSE & CO.
1894.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, January 2, 1894.

Received and ordered on file.

MICHAEL J. DOWD, *City Clerk.*

REPORT.

OFFICE SEALER OF WEIGHTS AND MEASURES,
LOWELL, Dec. 30, 1893.

To the Honorable the Mayor and Board of Aldermen:

I herewith submit the following report for nine months ending Dec. 30, 1893. I have inspected and sealed scales, weights, and measures, for which I have received fees as follows:

36 Railroad Hay and Coal Scales, @ \$1.00 . . .	\$ 36 00
270 Platform Scales, @ 50 cents	135 00
111 Small Platform Scales, @ 25 cents	27 75
253 Trip Scales and Counter Balances, @ 3 cents	7 59
110 Butchers' Scales and Spring Balances, @ 3 cents, ...	3 30
2309 Weights, @ 3 cents	69 27
	\$278 91
Amount paid for teaming	35 50
Paid City Treasurer	\$243 41

I have also inspected and sealed the following,
with no fee:

39 Platform and 12 Trip Scales.

11 Butchers' Scales and 17 Counter Balances.

289 Weights.

33 Dry and 75 Wet Measures.

I have condemned 5 Platform Scales, 7 Spring
Balances, and 19 Weights.

JAMES R. FULTON,

City Sealer.

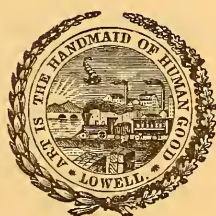
CITY DOCUMENT, 1894.

SALARIES OF THE OFFICERS

OF THE

CITY OF LOWELL

FOR THE YEAR 1894.



LOWELL, MASS.:

VOX POPULI PRESS: S. W. HUSE & CO.

1893.



CITY OF LOWELL

In the year eighteen hundred and ninety-three.

RESOLUTION

ESTABLISHING THE SALARIES OF OFFICERS OF THE CITY
OF LOWELL FOR THE YEAR 1894.

*RESOLVED by the Board of Aldermen and Common
Council of the City of Lowell, in City Council
assembled, as follows:—*

The salaries of the several city officers for the year beginning on the first day of January and ending on the thirty-first day of December, one thousand eight hundred and ninety-four shall be at the rate herein mentioned; to be paid monthly, unless herein otherwise ordered.

SECTION 1. The salary of the MAYOR shall be at Mayor.
the rate of twenty-five hundred dollars per annum.

SECT. 2. The salary of the CITY CLERK shall be City Clerk.
at the rate of eighteen hundred dollars per annum.

SECT. 3. The salary of the CITY TREASURER shall City Treasurer.
be at the rate of twenty-seven hundred dollars per annum for performing the duties of City Treasurer and Collector of Taxes. He shall annually give a

bond in the sum of fifty thousand dollars, with good and sufficient sureties, satisfactory to the Mayor and Aldermen, for the faithful performance of his duties, and to account for all sums of money received in the sales of Water Bonds, and the collection of Water Rates, and in the capacity of City Treasurer and Collector of Taxes.

Auditor of Accounts.

SECT. 4. The salary of the AUDITOR OF ACCOUNTS shall be at the rate of eighteen hundred dollars per annum.

City Solicitor.

SECT. 5. The salary of the CITY SOLICITOR shall be at the rate of two thousand dollars per annum, which shall be in full for all services rendered the city.

Civil Engineer.

SECT. 6. The salary of the CIVIL ENGINEER shall be at the rate of twenty-seven hundred dollars per annum, which shall be in full for services as Civil Engineer of the Water Board; and he shall devote his whole time to the service of the city. He shall be allowed such assistance as the Chairman of the Joint Standing Committee on Streets, the Chairman of the Committee on Sewers, and the President of the Lowell Water Board may determine.

City Physician.

SECT. 7. The salary of the CITY PHYSICIAN shall be at the rate of seven hundred dollars per annum, which shall be in full for all services rendered the city, including his duties as a member of the Board of Health.

Clerk of the Common Council.

SECT. 8. The salary of the CLERK OF THE COMMON COUNCIL shall be at the rate of two hundred and fifty dollars per annum.

SECT. 9. The salary of the CITY MESSENGER shall City Messenger. be at the rate of twelve hundred dollars per annum.

SECT. 10. The salary of the MEASURER OF WOOD Measurer of Wood and Bark. AND BARK, in the rear of the Market-house building, shall be at the rate of six hundred dollars per annum; and he shall account for all fees received by him in his official capacity; shall pay the same into the treasury monthly, and at the same time make a report of the amount so paid to the Auditor of Accounts; and also shall be required to devote, daily, to his duty such time as the Mayor may direct. The salary of any additional measurers of wood and bark shall be at such rate as the Mayor and Aldermen may, from time to time, determine; *provided*, that the same shall not exceed the amount of fees received.

SECT. 11. The salary of the PRESIDENT OF THE President of the Lowell Water Board. LOWELL WATER BOARD shall be at the rate of four hundred dollars per annum.

SECT. 12. The Joint Committee on Accounts and the Joint Committee on Finance may provide such clerical assistance in the offices of the City Clerk, City Treasurer, Auditor of Accounts, Assessors of Taxes, as may be necessary, the expense thereof to be charged to the Reserved Fund. The Committee on State Aid may provide such clerical assistance as may be necessary in the distribution of State Aid, the expense thereof to be charged to the Reserved Fund.

POLICE.

SECT. 13. The salary of the CHIEF OF POLICE Chief of Police. shall be at the rate of two thousand dollars per annum.

Deputy Chiefs.

SECT. 14. The salaries of the DEPUTY CHIEFS shall be at the rate of fourteen hundred dollars per annum each; payable weekly.

The salaries of the INSPECTORS OF POLICE, detailed for detective duty, shall be at the rate of twelve hundred dollars per annum each; payable weekly.

The compensation of the SERGEANTS OF POLICE, and INSPECTORS detailed for liquor duty, shall be at the rate of three dollars per day each; payable weekly.

Day and Night
Police Officers.

The compensation of DAY AND NIGHT POLICE OFFICERS shall be at the rate of two dollars and seventy-five cents per day each; payable weekly.

Matron of the
Police Station.

The compensation of MATRON OF THE POLICE STATION shall be at the rate of six hundred dollars per annum, payable weekly.

SECT. 15. All fees received by the officers mentioned in the two preceding sections, for attendance as witnesses, or for any other service in an official capacity, shall be paid by the officer receiving the same to the City Treasurer; and said officers shall, at the same time, report to the Auditor of accounts the amount thus paid; *provided*, however, that said officers need not account for any fees for travel and attendance before the Supreme Judicial and Superior Courts as witnesses.

The Standing
Justice of the
Police Court of
Lowell.

SECT. 16. THE STANDING JUSTICE OF THE POLICE COURT OF LOWELL shall be paid at the rate of one hundred dollars per annum, for receiving complaints, issuing warrants, and trying cases under the forty-

eighth chapter of the Public Statutes, or any subsequent Act or Ordinance concerning truant children and absentees from school.

SUPERINTENDENTS AND INSPECTORS.

SECT. 17. The salary of the SUPERINTENDENT OF Superintendent of Streets. STREETS shall be at the rate of two thousand dollars per annum. The city shall furnish a horse and conveyance for his use.

SECT. 18. The salary of the SUPERINTENDENT OF Superintendent of Public Buildings. PUBLIC BUILDINGS shall be at the rate of eighteen hundred dollars per annum. The city shall furnish a horse and conveyance for the use of himself and the men under his charge.

SECT. 19. The salary of the SUPERINTENDENT OF Superintendent of the Water Works. THE WATER WORKS shall be at the rate of eighteen hundred dollars per annum; and the city shall furnish a horse and carriage for his use.

SECT. 20. The salary of the SUPERINTENDENT OF Superintendent of City Scales. CITY SCALES shall be at the rate of two hundred dollars per annum; and he shall pay into the city treasury all moneys received for fees.

The salary of any additional Weigher of Hay and other articles shall be at such rate as the Mayor and Aldermen may, from time to time, determine; *provided* that the same shall not exceed the amount of fees received.

SECT. 21. The salary of the FISH WARDEN shall Fish Warden. be at the rate of forty dollars per annum; and the salary of POUND-KEEPER shall be at the rate of twenty- Pound-keeper. five dollars per annum.

Sealer of
Weights and
Measures.

SECT. 22. The salary of the SEALER OF WEIGHTS AND MEASURES shall be at the rate of three hundred dollars per annum; and all fees received by him shall be paid into the city treasury monthly; and he shall, at the same time, report to the Auditor of Accounts the amount of such payment.

Secretary of the
Board of Over-
seers of the Poor.

SECT. 23. The salary of the SECRETARY OF THE BOARD OF OVERSEERS OF THE POOR shall be at the rate of thirteen hundred dollars per annum.

Board of Health.

SECT. 24. The salary of the appointed members of the BOARD OF HEALTH shall be at the rate of six hundred dollars per annum each.

Inspector of
Milk, Vinegar,
Oleomargarine,
and Provisions.

SECT. 25. The salary of the INSPECTOR OF MILK, VINEGAR, OLEOMARGARINE, AND PROVISIONS shall be at the rate of twelve hundred dollars per annum, and he shall perform whatever work he is called upon to do for the Board of Health.

REGISTRARS OF VOTERS.

Registrars of
Voters.

SECT. 26. The salary of the members of the BOARD OF REGISTRARS OF VOTERS shall be at the rate of five hundred dollars per annum each; and the Chairman of the said Board of Registrars shall receive fifty dollars additional. They shall receive their pay in equal amounts, in the months of October, November, and December.

ASSESSORS' DEPARTMENT.

Assessors of
Taxes.

SECT. 27. The salary of the ASSESORS OF TAXES shall be at the rate of twenty-two hundred and fifty dollars per annum each; and the salary of the ASSISTANT ASSESSORS shall be at the rate of twelve

Assistant As-
sessors.

hundred dollars per annum each. They shall devote their whole time to the service of the city, and shall make out and distribute the tax bills.

FIRE DEPARTMENT.

SECT. 28. The salaries of the several members of the Fire Department, for the year beginning May first, one thousand, eight hundred and ninety-four, shall be as herein mentioned, to be paid semi-annually, unless otherwise ordered.

The salary of the CHIEF ENGINEER shall be at the Chief Engineer. rate of two thousand dollars per annum, payable monthly, which shall be in full payment for all services which may be required of him by the City Council; and he shall devote his whole time to the duties of his office.

The salary of the FIRST ASSISTANT ENGINEER shall First Assistant Engineer. be at the rate of five hundred dollars; and of the other Assistant Engineers at the rate of four hundred dollars each per annum.

The SECRETARY OF THE BOARD OF ENGINEERS, who Secretary of the Board of Engineers. shall be a member of the Board, shall receive twenty-five dollars additional, which shall be in full payment for all the services which may be required of him by the Mayor and Aldermen, the Chief Engineer, and the Board of Engineers.

The CALL FOREMEN of the respective Hose, Hook Call Foreman. and Ladder, and Steam Fire Engine Companies shall be paid at the rate of two hundred and twenty-five dollars each per annum.

Captain.

CAPTAINS OF COMPANIES shall be paid three dollars per day.

Drivers.

DRIVERS of Steamers, Hook and Ladder, Horse Hose Carriages, and Protective Wagon, who shall perform all the duties of stewards, and all other permanent men, shall be paid two dollars and seventy-five cents per day each; payable weekly.

Members.

All other MEMBERS of Steam Fire Engine, Hose, and Hook and Ladder Companies shall be paid at the rate of two hundred dollars per annum each.

SECT. 29. Whenever any person in the employ of the city shall demand payment of his salary, or any part thereof, it shall be the duty of the Auditor and City Treasurer to deduct therefrom any and all sums of money due from such officer to the city.

